

REMARKS

Claims 14-16, 20-22, 26-28 and 30-55 are pending in the application. Claim 25 has been cancelled. Applicants gratefully acknowledge the allowance of claims 14-16 and 20, as well as the allowance of claims 30-37 pending the indefiniteness rejection. In view of the following remarks, reexamination and reconsideration are respectfully requested.

Applicants' counsel, and the assignee's representatives, wish to thank the examiner for the courtesies extended during the personal interview of November 1, 2005. The following records the substance of the interview regarding this application.

In the Office Action, claims 25 and 30-37 were rejected under 35 U.S.C. § 112, second paragraph, for indefiniteness. Claim 25 has been canceled, thereby rendering the rejection of this claim moot. Applicants, however, respectfully traverse the rejection of claims 30-37.

The Office Action alleges that claims 30-32 are indefinite because they recite that *at least one* side surface of the visible light characteristic changing layer has a rough texture. The gist of the rejection being that applicants should be required to claim both side surfaces having a rough texture. This is improper.

The Office Action attempts to justify the rejection by stating that the specification "does not disclose that only one surface of the visible light

characteristic changing layer” has a rough texture (emphasis in the Office Action). This justification is misplaced. First of all, applicants’ claims 30-32 recite “at least one side surface” and not only one surface as stated in the Office Action. Moreover, independent claim 30 is written in “open-ended” format using the “comprising” transition. As such, the features recited in the claim need only be a part of the device, and the claim does not exclude additional unrecited elements, such as a second rough surface. *See, e.g., Ex parte Schaefer*, 171 USPQ 110 (Pat. Off. Bd. App. 1970) (“[o]mission of some of the elements of the device make the claim broad, but not vague, indefinite or misdescriptive.”).

As discussed during the interview, it is well established that the phrase “at least one” or “at least one of” may mean one or more. *See, e.g., Superguide Corp. v. DirectTV Enterprises*, 358 F.3d 870 (Fed. Cir. 2004) (stating that the phrase at least one of means “one or more” and citing to *Rhine v. Casio, Inc.*); *Rhine v. Casio, Inc.*, 183 F.3d 1342, 1345 (Fed. Cir. 1999) (Federal Circuit holding that the phrase “at least one” means only one or more than one.) For the Examiner’s convenience, copies of these cases are attached.

In view of the above, applicants submit the phrase “at least one” as used in claim 30 is not indefinite. Applicants’ specification discloses a visible light characteristic changing layer having at least one rough surface.

By requiring that applicants essentially claim both side surfaces in claim 30, the Examiner appears to be attempting to limit the claims to a preferred

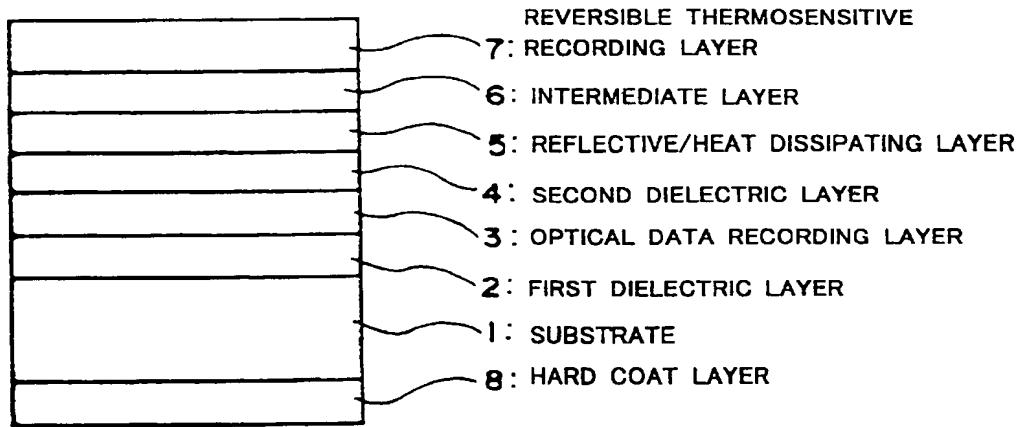
embodiment. However, the Federal Circuit made clear in *Cooper Cameron Corp. v. Kvaerner Oilfield Products, Inc.*, 291 F.3d 1317 (Fed. Cir. 2002), that there is no “essential element” test mandating an inquiry into what an inventor considers to be essential to his invention and requiring that the claims incorporate those elements.” *Id.* at 1323. Because applicants’ specification discloses a visible light characteristic changing layer having “at least one” rough surface, it is respectfully submitted that claim 30 is definite within the structures of 35 U.S.C. § 112.

Accordingly, for at least those reasons stated above, it is respectfully requested that the rejection of claims 30-37 be withdrawn.

Claims 21, 22, 25-28 and 38-55 were rejected under 35 U.S.C. § 103(a) as obvious in view of the combination of U.S. Patent No. 6,329,035 to Iwasaki et al. (“Iwasaki”) and Japanese Application No. 11-161768 (“Kobayashi”). This ground of rejection is respectfully traversed.

The combination of Iwasaki and Kobayashi does not render applicants’ claim 21 obvious because Iwasaki and Kobayashi are not analogous art, and accordingly one skilled in the art would not have been motivated to combine Iwasaki and Kobayashi in the manner fashioned in the Office Action. As such, a *prima facie* case of obviousness has not been made. Moreover, even if one were to combine Iwasaki and Kobayashi, such a combination would still not disclose or suggest all of the elements of applicants’ claim 21.

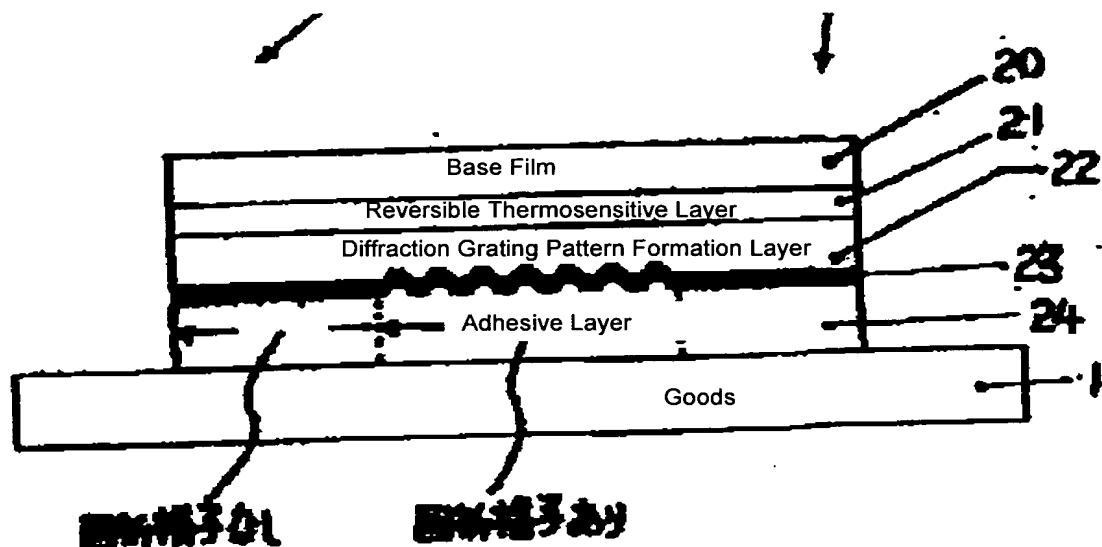
Iwasaki is directed toward an optical data storage medium capable of displaying information. As illustrated in Figure 1, which is reproduced below, Iwasaki discloses a reversible thermosensitive recording layer 7 arranged above intermediate layer 6, which in turn is arranged above reflective/heat dissipating layer 5.



The intermediate layer 6 “serves to protect the optical information storage layer 3 and the reflective/heat dissipating layer 5, and to bond the recording layer 7 with the reflective/heat dissipating layer 5 and other layers.” (Col. 6, lines 49-53). The Office Action acknowledges, therefore, as it must, that Iwasaki does not disclose an intermediate layer 6 that “is translucence and has a light scattering characteristic” as required by applicants’ claim 21.

In an attempt to remedy this deficiency, the Office Action relies upon Kobayashi. However, Kobayashi is directed to providing an information carrier, (such as an adhesive “sticker”) that including a diffraction grating (i.e., a

hologram) for confirming the validity of goods, such as credit cards and negotiable securities. (Paragraphs 0002, 0011 and 0012)¹. As illustrated in annotated Figure 2 of Kobayashi reproduced below, a reversible thermosensitive layer 21 is formed on diffraction-grating pattern formation layer 22, which is bonded to goods 1 by adhesive layer 24.



Depending upon a temperature of the reversible thermosensitive layer 21, the layer can have a transparent state or a non-transparent state. In the non-transparent state, the reversible thermosensitive layer 21 has a diffusion translucency characteristic. (Abstract and paragraph 0016). When the reversible thermosensitive layer is transparent, an information pattern of the diffraction grating pattern formation layer 22 can be viewed. (Paragraph 0017).

¹ Citations to Kobayashi are based on the machine generated translation provided with the Office Action by the USPTO. Obvious grammatical errors in the translation have been corrected in this

Because Kobayashi is directed to the art of information carriers for authenticating goods, such as credit cards and negotiable instruments, it is respectfully submitted that one skilled in the optical disc art would not have looked to this art to solve problems faced in the optical disc art. Specifically, Iwasaki is directed to providing labeling information for optical discs. Iwasaki, for example, discloses that one problem when labeling rewritable optical discs is that the label “cannot be conveniently changed when the stored data is changed.” (Col. 2, lines 9-16). Because such labeling information is usually not known until the data is written to the optical disc, consumers of such optical discs clearly have a need for providing different information on the labels. In stark contrast, the information conveyed by Kobayashi’s diffraction grating is predetermined as a security measure, and cannot be easily changed by an end-user. This, of course, is consistent with the purpose of the diffraction grating of Kobayashi—to provide a security measure—, thus reducing the ability to forge such information. Hence, combining Iwasaki and Kobayashi results in a layer between the reversible thermosensitive recording layer 7 and reflective/heat dissipating layer 5 that contains fixed and secure information, which goes directly against a stated purpose of Iwasaki to provide easily changeable disk labels. Accordingly, applicants respectfully submit that Iwasaki and Kobayashi are non-analogous art, and as such one skilled in the optical disc art would not have been motivated to look to the security verification art of Kobayashi to solve

discussion.

problems or to modify optical discs. Thus, a *prima facie* case of obviousness has not been made.

Nonetheless, even if one were to combine Iwasaki and Kobayashi, it would be done in a manner that still would not result in applicants' claim 21. Specifically, because Kobayashi discloses that the reversible thermosensitive layer 21—and not the diffraction grating pattern formation layer 22—has a diffusion translucency characteristic, one looking to combine the references would provide Iwasaki's reversible thermosensitive recording layer 7 with the diffusion translucency, not Iwasaki's intermediate layer 6. In contrast, applicants' claim 21 requires that the light scattering layer, which is translucence and has a light scattering characteristic, be "interposed between a first reflection layer of the optical disk and the visible light characteristic changing layer."

In view of the non analogous nature of the art cited, and the other remarks above, applicants respectfully submit that claim 21 is patentable over Iwasaki in view of Kobayashi.

Independent claim 26 recites "a light scattering layer provided between the first reflection layer and the visible light characteristic changing layer"; independent claim 38 recites "a translucence layer formed adjacent to the visible light characteristic changing layer"; and independent claim 47 recites "a light scattering layer formed adjacent to the visible light characteristic changing layer." Because the combination of Iwasaki and Kobayashi is improper for the

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Attorney Docket No. 101749.56391US
Amendment Dated: November 4, 2005
Reply to Office Action of October 3, 2005

reasons cited above, applicants respectfully submit claims 26, 38 and 47 are also patentable. The claims that depend from independent claims 21, 26, 38 and 47 are patentable at a minimum by virtue of their dependency.

For at least those reasons stated above, it is respectfully requested that the rejection of claims 21, 21, 25-28 and 38-55 as being obvious in view of the combination of Iwasaki and Kobayashi be withdrawn.

In view of the foregoing, applicants submit all pending claims are now in condition for allowance. An early notice to that effect is solicited. If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

It is respectfully requested that, if necessary to effect a timely response, this paper be considered as a Petition for an Extension of Time sufficient to effect

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a timely response and shortages in other fees, be charged, or any overpayment in fees be credited, to the Deposit Account of Crowell & Moring, L.L.P., Account No. 05-1323 (Docket #101749.56391US).

Respectfully submitted,

November 4, 2005



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Briefs and Other Related Documents

United States Court of Appeals,
 Federal Circuit.
SUPERGUIDE CORPORATION,
 Plaintiff-Appellant,
 v.

DIRECTV ENTERPRISES, INC., DirecTV, Inc.,
 DirecTV Operations, Inc., and Hughes
 Electronics Corporation, Defendants/Third Party
 Plaintiffs-Appellees,
 and

Thomson Consumer Electronics, Inc.,
 Defendant/Third Party Plaintiff-Cross
 Appellant,
 and

Echostar Communications Corporation, Echostar
 Satellite Corporation, and
 Echostar Technologies Corporation,
 Defendants/Third Party Plaintiffs-Appellees,
 v.

Gemstar Development Corporation, Third Party
 Defendant-Appellant.
Nos. 02-1561, 02-1562, 02-1594.

DECIDED: Feb. 12, 2004.

Rehearing and Rehearing En Banc Denied April 13,
 2004.

Background: Suit was brought alleging infringement of patents for interactive electronic television programming guides (IPGs). The United States District Court for the Western District of North Carolina, Lacy H. Thornburg, J., 211 F.Supp.2d 725, entered a judgment of noninfringement., and patentee and its licensee appealed.

Holdings: The Court of Appeals, Prost, Circuit Judge, held that:

(1) terms "regularly received television signal," "radio frequency information," and "mixer" did not limit the scope of the claimed invention to analog technology, but rather, covered digital signals;

(2) phrase "a search on at least said updated television programming information contained in RAM" meant any examination of the program listings stored in RAM to find those that met a user's search criteria;

(3) doctrine of waiver precluded patentee from proffering a broader definition of claim term than it advocated before the district court; and

(4) event timer could include additional information and memories, including volatile memory, however, the nonvolatile event timer memory containing the event timer information sequences had to directly control the recording device.

Affirmed in part, reversed in part, vacated and remanded.

Michel, Circuit Judge, filed opinion concurring in the result.

West Headnotes

[1] Patents **157(1)**
291k157(1) Most Cited Cases

[1] Patents **161**
291k161 Most Cited Cases

There is a "heavy presumption" that the terms used in patent claims mean what they say and have the ordinary meaning that would be attributed to those words by persons skilled in the relevant art.

[2] Patents **167(1)**
291k167(1) Most Cited Cases

[2] Patents **167(1.2)**
291k167(1.2) Most Cited Cases

Court reviews patent's written description and drawings to confirm that the patentee's use of the disputed term is consistent with the meaning given to it by the court.

[3] Patents **167(1.1)**
291k167(1.1) Most Cited Cases

Though understanding of patent claim language may be aided by the explanations contained in the written description, it is important not to import into a claim limitations that are not a part of the claim.

[4] Patents **167(1.1)**
291k167(1.1) Most Cited Cases

A particular embodiment appearing in the written description may not be read into a patent claim when the claim language is broader than the embodiment.

[5] Patents **168(2.1)**

291k168(2.1) Most Cited Cases

Although prosecution history is always relevant to patent claim construction, prosecution history may not be used to infer the intentional narrowing of a claim absent the applicant's clear disavowal of claim coverage; to be given effect, such a disclaimer must be made with reasonable clarity and deliberateness.

[6] Patents ↗ 101(3)

291k101(3) Most Cited Cases

Terms "regularly received television signal," "radio frequency information," and "mixer," as used in patent disclosing a system that stored electronic television program schedule information in the memory of a microcontroller, did not limit the scope of the claimed invention to analog technology, but rather, covered digital signals; patentees were aware of the existence of analog and digital signals and did not explicitly limit the disputed claim language to technologies that were "conventional" at the time of the invention.

[7] Patents ↗ 167(1.1)

291k167(1.1) Most Cited Cases

Patent applicant is not required to describe in his specification every conceivable and possible future embodiment of his invention.

[8] Patents ↗ 101(2)

291k101(2) Most Cited Cases

Phrase "a search on at least said updated television programming information contained in RAM," as used in patent disclosing a system that stored electronic television program schedule information in the memory of a microcontroller, meant any examination of the program listings stored in RAM to find those that met a user's search criteria.

[9] Patents ↗ 101(2)

291k101(2) Most Cited Cases

Phrase "desired format," as used in patent disclosing a system that stored electronic television program schedule information in the memory of a microcontroller, meant a user selected format for the display of the results of the search performed by the system.

[10] Patents ↗ 101(2)

291k101(2) Most Cited Cases

Phrase "at least one of," as used in patent for interactive electronic television programming guides (IPG) required that the user select at least one value for each category, i.e., at least one of a desired program start time, a desired program end time, a desired program service, and a

desired program type.

[11] Patents ↗ 324.1

291k324.1 Most Cited Cases

On appeal in patent infringement suit, doctrine of waiver precluded patentee from proffering a broader definition of claim term than it advocated before the district court.

[12] Patents ↗ 101(2)

291k101(2) Most Cited Cases

Phrase "automatically electronically converting," as used in patent allowing a viewer to use the program schedule listings stored in an interactive electronic television programming guide (IPG) to control a recording device such as a VCR (video cassette recorder), excluded extraction or copying of information from memory and restoring it into alternate memory; however, the claimed "conversion" did not require that the event timer sequences be capable of controlling a particular VCR.

[13] Patents ↗ 101(2)

291k101(2) Most Cited Cases

Phrase "for directly controlling a recording device," as used in patent allowing a viewer to use the program schedule listings stored in an interactive electronic television programming guide (IPG) to control a recording device such as a VCR (video cassette recorder), meant that the event timer information sequences stored in an event timer were used to provide the information and generate the signals that were necessary to control a recording device.

[14] Patents ↗ 101(2)

291k101(2) Most Cited Cases

Phrase "event timer," as used in patent allowing a viewer to use the program schedule listings stored in an interactive electronic television programming guide (IPG) to control a recording device such as a VCR (video cassette recorder), meant "at least nonvolatile memory and logic for storing event timer information sequences that were used to control the recording of a television program"; the event timer also could include additional information and memories, including volatile memory, however, the nonvolatile event timer memory containing the event timer information sequences had to directly control the recording device.

Patents ↗ 328(2)

291k328(2) Most Cited Cases

4,751,578, 5,038,211, 5,293,357. Construed.

*872 John J. Barnhardt, III, Alston & Bird LLP, of

Charlotte, NC, argued for plaintiff-appellant SuperGuide Corporation. Of counsel on the brief were A. Ward McKeithen and Everett J. Bowman, Robinson, Bradshaw & Hinson, P.A., of Charlotte, NC. Of counsel was John A. Wasleff, Alston & Bird.

Victor G. Savikas, Jones, Day, Reavis & Pogue, of Los Angeles, CA, argued for defendants/third party plaintiffs-appellees DirecTV Enterprises, Inc., et al. With him on the brief were Gregory A. Castanias, of Washington, DC; and Kevin G. McBride, of Los Angeles, CA. Of counsel were Elizabeth J. Hoult, of Washington, DC; and Michael John Newton, of Dallas, TX.

John P. Corrado, Morrison & Foerster LLP, of McLean, VA, argued for defendant/third party plaintiff-cross appellant Thomson Consumer Electronics, Inc. With him on the brief were Peter J. Davis and Charles C. Carson, of McLean, VA; and Harold J. McElhinny, of San Francisco, CA.

Lawrence K. Nodine, Needle & Rosenberg, P.C., of Atlanta, GA, argued for defendants/third party plaintiffs-appellees Echostar Communications Corporation, et al. With him on the brief were Nagendra Setty; and Larry McDevitt and W. Carleton Metcalf, Van Winkle, Buck, Wall, Starnes and Davis, of Asheville, NC.

William F. Lee, Hale & Dorr LLP, of Boston, MA, argued for third party defendant-appellant Gemstar Development Corporation. With him on the brief were James L. Quarles III and Mark G. Matuschak, of Washington, DC.

Before MAYER, Chief Judge, MICHEL, and PROST, Circuit Judges.

Opinion for the court filed by Circuit Judge PROST. Opinion concurring in the result filed by Circuit Judge MICHEL.

PROST, Circuit Judge.

SuperGuide Corporation ("SuperGuide") and Gemstar Development Corporation ("Gemstar") appeal the grant of summary *873 judgment in favor of DirecTV Enterprises, Inc., DirecTV, Inc., DirecTV Operations, Inc. (collectively "DirecTV"); Hughes Electronics Corporation ("Hughes"); Thomson Consumer Electronics [FN1] ("Thomson"); and EchoStar Communications Corporation, EchoStar Satellite Corporation, EchoStar Technologies Corporation (collectively "EchoStar"). The United

States District Court for the Western District of North Carolina ruled that DirecTV, Hughes, Thomson and EchoStar did not infringe the asserted claims of United States Patent Nos. 4,751,578 ("the '578 patent"), 5,038,211 ("the '211 patent") and 5,293,357 ("the '357 patent"). *SuperGuide Corp. v. DirecTV Enters., Inc.*, 211 F.Supp.2d 725 (W.D.N.C.2002). Because the district court erred in construing certain of the claims upon which its non-infringement judgment was based, we affirm-in-part and reverse-in-part the district court's claim construction, vacate the judgment, and remand this case for further proceedings consistent with this opinion.

[FN1] Thomson Consumer Electronics, Inc. is now known as Thomson Multimedia, Inc.

I. BACKGROUND

A. The Patents

Program guides provide viewers with television program schedule information for upcoming programs. These program guides were initially available only in printed version. Broadcasters subsequently began transmitting online program guides to viewers' televisions. Viewers, however, could not perform a search of this information and had to wait until the desired information appeared on the television screen.

The patents in suit address this shortcoming by claiming a device that allows the user to display, on a television screen, only the program information desired by the user. These devices are hence commonly referred to as interactive electronic program guides ("IPG" or "IPGs"). The '578 patent claims the storage in IPG memory and subset searching of a large volume of program schedule information. The '211 patent claims the storage of only predesignated programming information until it is intentionally updated. The '357 patent claims a method for converting the electronic program guide information into event timer information sequences that may be used to control a recording device.

B. The Parties

SuperGuide owns the three patents in suit and Gemstar is an exclusive licensee of these patents in certain fields of use under a License Agreement entered into in August 1993. DirecTV operates a satellite-broadcasting network whose transmissions include program guide information that supports IPGs as part of the DirecTV subscription service. Hughes and Thomson manufacture systems that receive DirecTV broadcasts and process them for display on television. These systems include antennas, filters, and a module known as an Integrated

Receiver/Decoder ("IRD"), which is typically packaged in a "set top box." EchoStar also broadcasts satellite transmissions, which include program guide information that supports IPGs. In addition, EchoStar manufactures systems, including IRDs, marketed commercially as "The Dish Network," which receive and process the broadcast information.

C. Proceedings Below

On June 27, 2000, SuperGuide filed an infringement suit against DirecTV, Hughes, Thomson, and EchoStar alleging infringement of the three patents at issue. *874 Based on the License Agreement between SuperGuide and Gemstar, the district court granted the motions by defendants DirecTV and Hughes to implead Gemstar as a third-party defendant. Gemstar alleged that EchoStar infringes each of the asserted three patents, and cross-claimed against SuperGuide for breach of the License Agreement and declaratory relief. SuperGuide counterclaimed against Gemstar for a declaration of the field of use reserved in the License Agreement between the two. Thomson moved for summary judgment of non-infringement based upon a sublicense from Gemstar. The district court denied as premature Thomson's motion for summary judgment, ruling that it could not decide the motion without first construing the disputed claim language.

On October 25, 2001, the district court issued a decision construing the contested terms of the asserted claims in the three patents in suit. *SuperGuide Corp. v. DirecTV Enters., Inc.*, 169 F.Supp.2d 492 (W.D.N.C.2001). Based on this claim construction decision, the defendants filed a joint motion for summary judgment of non-infringement with respect to each of the patents, and third-party defendant Gemstar cross-moved for summary judgment of infringement. Both SuperGuide and Gemstar opposed defendants' motion for summary judgment with respect to the '578 patent. With respect to the '357 and '211 patents, however, Gemstar opposed only EchoStar's motion for summary judgment of non-infringement, whereas SuperGuide opposed summary judgment as to all defendants. Thomson renewed its motion for summary judgment of non-infringement based on its license from Gemstar. On July 2, 2002, the district court issued a decision granting summary judgment of non-infringement in favor of all defendants as to all asserted claims and products with the exception of two EchoStar models. Because the court found no infringement by Thomson, it declined to decide Thomson's motion and denied it as moot. *Id.* at 777. The court dismissed all remaining claims, counterclaims, cross-claims, affirmative

defenses, and defenses without prejudice, including Gemstar's request that its cross-claims against SuperGuide be tried before a jury. [FN2] *Id.* at 777-78. On July 22, 2002, the parties then filed a stipulation that SuperGuide would be unable to establish infringement of the two EchoStar models if the district court's claim construction and summary judgment rulings were upheld on appeal. The district court entered final judgment on July 25, 2002, and the parties timely appealed. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).

FN2. Before entry of final judgment, the parties by stipulation dismissed a patent misuse defense previously filed by EchoStar against Gemstar.

II. RELEVANT LAW

We review the grant of summary judgments of noninfringement de novo. *IMS Tech., Inc. v. Haas Automation, Inc.*, 206 F.3d 1422, 1429 (Fed.Cir.2000).

A determination of infringement involves a two-step analysis, the first step being to properly construe the asserted claims. *Carroll Touch, Inc. v. Electro Mech. Sys., Inc.*, 15 F.3d 1573, 1576 (Fed.Cir.1993). Claim construction is a question of law that this court reviews without deference. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed.Cir.1995).

[1][2][3][4] There is a "heavy presumption" that the terms used in claims "mean what they say and have the ordinary meaning that would be attributed to those words by persons skilled in the relevant art." *875 *Tex. Digital Sys., Inc. v. Telegenix, Inc.*, 308 F.3d 1193, 1202 (Fed.Cir.2002). Moreover, dictionaries are often helpful in ascertaining the plain and ordinary meaning of claim language. *Id.* at 1202-03; *Inverness Med. Switz. GmbH v. Warner Lambert Co.*, 309 F.3d 1373, 1378 (Fed.Cir.2002). We review the patent's written description and drawings to confirm that the patentee's use of the disputed term is consistent with the meaning given to it by the court. *Rexnord Corp. v. Laitram Corp.*, 274 F.3d 1336, 1342 (Fed.Cir.2001). Specifically:

claim terms take on their ordinary and accustomed meanings unless the patentee demonstrated an intent to deviate from the ordinary and accustomed meaning of a claim term by redefining the term or by characterizing the invention in the intrinsic record using words or expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope.

Teleflex, Inc. v. Ficosa N. Am. Corp., 299 F.3d 1313,

1327 (Fed.Cir.2002); see Tex. Digital Sys., 308 F.3d at 1204. The written description, however, is not a substitute for, nor can it be used to rewrite, the chosen claim language. "Specifications teach. Claims claim." SRI Int'l v. Matsushita Elec. Corp. of Am., 775 F.2d 1107, 1121 n. 14 (Fed.Cir.1985) (en banc). Though understanding the claim language may be aided by the explanations contained in the written description, it is important not to import into a claim limitations that are not a part of the claim. For example, a particular embodiment appearing in the written description may not be read into a claim when the claim language is broader than the embodiment. Electro Med. Sys. S.A. v. Cooper Life Sci., Inc., 34 F.3d 1048, 1054 (Fed.Cir.1994).

[5] Last, we consider the prosecution history when determining the proper meaning of disputed claim terms. "Although [it] is correct that the prosecution history is always relevant to claim construction, it is also true that the prosecution history may not be used to infer the intentional narrowing of a claim absent the applicant's clear disavowal of claim coverage." Amgen Inc. v. Hoechst Marion Roussel, Inc., 314 F.3d 1313, 1327 (Fed.Cir.2003). To be given effect, such a disclaimer must be made with "reasonable clarity and deliberateness." N. Telecom Ltd. v. Samsung Elecs. Co., 215 F.3d 1281, 1294 (Fed.Cir.2000).

The parties dispute the construction of claim language in the three related patents at issue. We address each patent and each disputed phrase or term in turn.

III. '578 PATENT

A. Background of the '578 Patent

The '578 patent was filed in May 1985 and issued in June 1988. It discloses a system that stores electronic television program schedule information in the memory of a microcontroller. The invention allows the viewer to direct the microcontroller to perform subset searches on the stored information. The desired information is then sent to a "mixer," which mixes it with a "regularly received television signal." The system sends the mixed signal to a "radio frequency ('RF') section" where it is forwarded to the user's television for display.

On appeal, Gemstar challenges the district court's construction of claim 1 of the '578 patent. This claim, with the disputed language underlined, reads as follows:

1. A system for electronically controllably viewing updateable information on a television having a screen comprising:
 - (a) a microcontroller including input/output

interfaces, a microprocessor, and an updateable memory comprising at least a RAM, said RAM of *876 said microcontroller being updateable via an electronic medium and storing updated information including at least television programming information;

(b) a mixer for mixing a *regularly received television signal* with the signal generated by the microcontroller in accord with instructions of said microcontroller;

(c) an RF section for receiving instructions from said microcontroller and for receiving *radio frequency information* from the mixer and a television station and properly converting the information into video signals which may be sent to said television for viewing; and

(d) a remote control system, said microcontroller being controllable by said remote control system, for permitting a viewer of said television to direct said microcontroller to *perform a search* on at least said updated television programming information contained in said RAM of said microcontroller, a subset of at least said updated television programming information being output to said mixer so as to provide on the television screen television programming information desired by the viewer in a *desired format*.

'578 patent, col. 8, ll. 8-38 (emphases added).

With respect to the '578 patent, Gemstar argues that the district court failed to apply the plain language of the terms, improperly read limitations from one embodiment into the claim, improperly found another embodiment that conflicted with that construction to be disclosed and unclaimed, misapplied cases addressing after-developed technology in the means-plus-function claim context, and entered summary judgment in the face of disputed issues of material fact. [FN3]

FN3. SuperGuide adopts Gemstar's arguments regarding the construction of the '578 patent and raises additional arguments.

Of the five disputed claim phrases, the first three involve a determination of whether the claimed invention covers digital technology. Thus, we construe the first three disputed claim phrases concurrently, and the remaining two separately.

B. "Regularly received television signal," "radio frequency information," and "mixer"

[6] The principal issue with respect to the disputed claim language is whether claim 1 covers digital

signals. The district court observed that the only type of television signals that were broadcast in 1985 were analog signals. SuperGuide Corp., 169 F.Supp.2d at 498. Relying on a portion of the specification explaining that when the programming guide is not in use the received television signals are sent directly through the RF section to the television for viewing, the district court reasoned that the terms "radio frequency information" and "regularly received TV signals" must be limited to analog signals and, more specifically, do not embrace digital television signals. In light of its construction that the '578 patent is limited to the type of television signals that were broadcast in 1985, i.e., analog signals, the district court held in its infringement decision that the patentees disclosed but did not claim digital captioning and that the patentees could not invoke the doctrine of equivalents to extend the scope of the '578 patent to encompass digital technology. *Id.* at 510. The district court suggested that the patentees' *877 failure to enlarge the scope of the claims to explicitly include digital signals or closed captioning signals indicates that the disclosed embodiment directed to closed captioning was dedicated to the public. To reach such a conclusion, the district court operated under the assumption, which we find to be incorrect below, that the claimed invention is limited to analog television signals. The district court concluded that "regularly received television signal" means "an analog signal modulated onto a carrier wave and transmitted via terrestrial antennae or through a cable or satellite system" and does not include "a digital television signal as understood in the state of the art in the mid-1990's." SuperGuide Corp., 169 F.Supp.2d at 509. The court construed "radio frequency information" to mean "modulated or unmodulated analog signals containing television programming and video information received either from the mixer internal to the system or from a television station" and as not including "digital television signals." *Id.* at 526.

The court also relied on the specification and the state of the art in 1985 to construe the disputed term "mixer." The court noted that the information generated by the microcontroller is in digital format and that the specification states that the mixer converts such digital information into a format which can be viewed in the same way as the video data received from the RF section. The court found that the video data received in the RF section is in analog format. [FN4] Recognizing that the literal scope of a claim term is limited to what it was understood to mean at the time the patent was filed, the court concluded that in 1985, one of ordinary skill in the art would have understood that the digital data received from the

microcontroller would of necessity be converted into analog format. Thus, the district court determined that the "mixer" first converts the digital signal from the microcontroller into an analog format and then mixes it with the video data. The court therefore construed the term "mixer" as follows:

[FN4]. The court stated that the parties agreed that, at least as it is received in the RF section from the outside, the video data is in analog format. SuperGuide Corp., 169 F.Supp.2d at 504. Based on the record, however, it is unclear how the court arrived at this conclusion.

the electronics for (a) receiving an unmodulated digital signal generated by the microcontroller which contains television programming information and converting the same into an analog format; (b) receiving from the RF section an analog television signal, whether demodulated or unmodulated, which contains television video information; (c) receiving and stripping a modulated analog signal which contains television video information from the RF section; and (d) mixing the two analog signals to produce an analog signal containing television programming and video information which is then transmitted to the RF section. The mixer does not function as a switch.

Id.

On appeal, Gemstar maintains that the '578 patent covers systems that receive digital as well as analog television signals. It specifically argues that the district court misapplied cases involving "means-plus-function" claims and "after-arising technologies." In addition, Gemstar contends that the court failed to apply the plain meaning of the disputed claim language, erred by reading analog limitations from one embodiment into claim 1, and improperly adopted a claim construction inconsistent with a preferred embodiment.

*878 According to Gemstar, "regularly received television signal" means non-customized, acquired electrical information representing visual images with the form of the signal not being relevant; "radio frequency information" means the information received from the mixer, microcontroller, and/or a television station that is carried on or derived from a radio frequency signal; and "mixer" means the electronics that receive the "regularly received television signal" and a signal generated by the microcontroller, and that combine those two signals as instructed by the microcontroller.

In response, relying primarily on the state of the art when the '578 patent' was filed in 1985 and the knowledge of those skilled in the art at that time, EchoStar argues that the phrases "regularly received television signal" and "radio frequency information" refer to the ordinary analog television signals that were being broadcast in 1985 and that an ordinary television could receive and process at that time. [FN5] It contends that nothing in the specification or prosecution history suggests that the '578 patentees gave these phrases a different meaning. Thus, according to EchoStar, the district court correctly construed the disputed claim language as excluding digital television signals. EchoStar next relies on the specification and its interpretation of "regularly received television signal" and "radio frequency information" as limited to analog signals to argue that the recited mixer requires circuitry that converts the signal from the microcontroller into analog signals. It adds that the district court correctly concluded that the "mixer" does not function as a "switch" because the patentees disclaimed switching or toggling when distinguishing their invention over a prior art reference.

FN5. DirecTV, Hughes, and Thomson adopt EchoStar's arguments regarding the construction of the '578 patent'.

We begin our review of the district court's construction of the asserted claim by agreeing with Gemstar that the court improperly relied on cases involving means-plus-function claims to conclude that later or "after-arising technologies" cannot fall within the literal scope of the claim at issue. Method and apparatus claims not written in means-plus-function format are not necessarily limited to that disclosed in the specification but rather are defined by the language of the claims themselves. See SRI, 775 F.2d at 1121 ("It is the claims that measure the invention.").

In construing the terms "regularly received television signal," "radio frequency information," and "mixer," the district court should have begun its analysis by first examining the claim language. The district court held and the defendants argue essentially that "regularly received television signal" refers to the format of television signals that were "regularly" received by televisions as of 1985, and that because no televisions existed as of that date that could receive digital signals, the term, as understood by those skilled in the art, necessarily excludes digital technology.

While that argument appears persuasive at first blush,

closer analysis of the intrinsic record does not bear support for such a claim construction. The claim language does not limit the disputed phrases to any particular type of technology or specify a particular type of signal format, such as analog or digital. Indeed, neither "analog" nor "digital" appears in any of the asserted claims.

*879 We find that the district court's and EchoStar's reliance on Kopykake Enters., Inc. v. Lucks Co., 264 F.3d 1377 (Fed.Cir.2001), as authority for limiting the meaning of the disputed claim language to analog technology is likewise misplaced. The limitation at issue in Kopykake required "screen printing" of images on foodstuffs and the accused product used "ink jet printing." *Id.* at 1380. Thus, the issue was whether the claim language "screen printing" literally covered ink jet printing. *Id.* The specification explicitly defined the term "screen printing" as limited to "'conventional' or then-existing technologies. *Id.* Specifically, the specification stated that "the term screen printing as used herein encompasses not only conventional screen printing, but also includes any other conventional printing process and any other conventional means.' " *Id.* (citation omitted). Although ink jet systems were well known in the field of paper printing, it was not a conventional printing process for applying images to foodstuffs. *Id.* at 1383-84. We therefore held that ink jet printing was not covered by the claim term at issue. *Id.* at 1384. That holding, however, does not have relevance here because the patentees in Kopykake explicitly limited the claim term to technologies that were "conventional" at the time of the invention. In contrast, the '578 patentees did not explicitly limit the disputed claim language to technologies that were "conventional" at the time of the invention.

[7] The "regularly received television signal" received by the mixer is referred to in the specification as "video data." '578 patent', col. 5, ll. 3-6; col. 6, ll. 44-47; fig. 1. "Regularly received television signal" therefore refers not to signal directly received by the RF section and sent directly to the television, but rather to the video data received by the mixer. It appears indisputable that it was known to those skilled in the art during the pendency of the '578 patent' application that video data could be communicated in either analog or digital format. Although analog may have been the dominant format of video data when the '578 patent' application was filed, we have little doubt that those skilled in the art knew of the existence of digital video data at the time. [FN6] Indeed, the first digital television standard was created in 1981, and as early as 1983, systems were used to transmit digital

data to provide videoconferencing and videotext. By 1985, work on developing a standard for the transmission of digital video data for telephony had begun, and by 1988, the year the '578 patent issued, there was sufficient interest by those in the video industry to establish a Motion Picture Experts Group to create a digital video standard for television broadcasts. Moreover, a review of the '578 patent specification reveals that the patentees were aware of the existence of analog and digital signals. For example, the specification describes examples of transmitting digital signals, such as those conveyed to and from the microprocessor *880 and from digital sound files. Had the patentees intended to limit the disputed claim terms to "analog" technology, they could have easily done so by explicitly modifying the disputed claim language with the term "analog." We find nothing in the written description of the '578 patent, much less the claim language, that precludes the mixer of the claimed invention from receiving video data in digital format. The law "does not require that an applicant describe in his specification every conceivable and possible future embodiment of his invention." *SRI*, 775 F.2d at 1121. We find no reason here to limit the scope of the claimed invention to analog technology, when "regularly received television signals," i.e., video data, is broad enough to encompass both formats and those skilled in the art knew both formats could be used for video.

FN6. The district court also did not resolve the disagreement between Gemstar and EchoStar as to the state of the art in 1985. On appeal, EchoStar asserts that in the 1985-1988 time frame, digital television was still in its infancy, while Gemstar would have us believe that digital television was at a more advanced stage of development. EchoStar acknowledges, however, that when the '578 patent was filed, "[c]onceptual work for digital television had begun but was 'little known'" and "[t]he essential 'Motion Picture Expert Group' (MPEG) standards for compressing video for digital transmission were not issued until 1988." It further characterizes digital television as "at best an 'emerging technology' in the 1985-1988 timeframe." Based on these statements by EchoStar, we are confident in stating that in 1985 the '578 patentees were at least aware that digital television signals could be broadcast in the future.

During the prosecution of the '578 patent, the Examiner rejected the asserted claim over the

Lindman reference, which describes the receipt and mixing of two "baseband analog video signals" to superimpose text or symbols representing military hardware onto a map. The "map" displayed and selected by the user comes from a video signal from a videodisc player; the military icons and text data are obtained from computer memory. The '578 patentees distinguished their invention from Lindman by arguing that Lindman does not "appear[] to mix *regular* RF television station signals with information stored in [computer] memory" and then overlay them. (Emphasis added). In both Lindman and the claimed invention, a mixer mixes video data with data generated by a microcontroller. Because the data that is mixed in Lindman is in analog format, the patentees could not have intended for the term "regular" merely to mean "analog" because that would not have provided any distinction from Lindman. The patentees sought to distinguish the claimed invention from Lindman by emphasizing that their invention mixed information from computer memory with regular television signals, as opposed to a video-on-demand source, such as a videodisc player. The patentees' argument suggests that "regular" refers to signals customarily received by the television viewing public at large, *see American Heritage Dictionary of the English Language* 1098 (6th ed. 1976) (defining "regular" to mean "customary"), and not to video-on-demand signals, such as those received by the military in the Lindman invention or pay-per-view, which other customers ordinarily would not receive unless special ordered.

Nothing in regard to the Bourassain reference alters our interpretation of the pertinent claim language. The Examiner initially rejected the claim at issue over the Bourassain reference, which describes the mixing of two analog television signals in a picture-in-picture display. The Examiner stated that Bourassain's "regular TV signal" met the applicant's "regularly received TV signal" limitation. In distinguishing Bourassain, the patentees argued that "[t]he image-on-image of Bourassain is *regular* TV signals as opposed to TV signals overlaid by signals being generated by a microprocessor." (Emphasis added). According to EchoStar, this prosecution argument shows that the patentees and the Examiner equated the "regularly received television signal" with the analog television signals in Bourassain. Gemstar, on the other hand, argues that because the '578 patent undisputedly covers at least analog signals, they had no reason to argue that the analog television signals described in Bourassain were different from a "regularly received television signal." We agree with Gemstar. The patentees distinguished their invention from

Bourassin on the ground that it overlaid "image on image" regular television signals "as opposed *881 to TV signals overlaid by signals being generated by a microprocessor," and thus the patentees had no reason to distinguish the signal format used in Bourassin.

Thus, the prosecution history does not preclude a construction of the asserted claim as covering any particular type of signal format. It is irrelevant that the patentees did not argue during prosecution of the '578 patent that "regularly received television signal" also included digital technology because the absence of such an argument does not necessarily indicate a clear and deliberate disavowal. See *DeMarini Sports, Inc. v. Worth, Inc.*, 239 F.3d 1314, 1326 (Fed.Cir.2001) (stating that silence cannot serve as a basis for prosecution history estoppel because "we can draw no inference from what [the patentees] did not argue"). Therefore, we see nothing in the prosecution history to alter our conclusion that claim 1 is not limited to analog technology.

Accordingly, we construe "regularly received television signal" to mean video data that is customarily received by the television viewing public and not video-on-demand. The form of the television signal is irrelevant; it could be an analog signal, a digital signal, some combination of the two, or another format. The '578 patent defines "radio frequency information" as the signal generated from the antenna, mixer, and microcontroller. '578 patent, col. 2, l. 48. We therefore construe "radio frequency information" to mean the information received from the mixer, microcontroller, and/or a television station that is carried on or derived from a radio frequency signal. Finally, we construe the term "mixer" to mean the electronics that receive the "regularly received television signal" and a signal generated by the microcontroller, and that combine those two signals as instructed by the microcontroller. The mixer is not limited to any particular electronics because the claim language does not so limit the scope of the mixer. The preferred embodiments may describe the mixer as including certain components, including a digital-to-analog converter, but that does not mean that the claims are so limited. Accordingly, for the reasons stated, we reverse the district court's construction of the disputed claim language and adopt the constructions discussed above.

C. "To perform a search"

[8] We next turn to the phrase "a search on at least said updated television programming information contained in RAM." In construing this claim language, the district court quoted a portion of the specification

and summarily stated, "[i]t is clear from the language of the claim and the specification that the search is of all the information contained in the RAM in order to produce the subset of data specified by the viewer." *SuperGuide Corp.*, 169 F.Supp.2d at 511. The district court noted that the invention, as described in the specification, also envisions storing information other than television scheduling information, and that the claim states that the search will be conducted on "at least said updated television programming information." The court therefore construed the disputed phrase to mean "a user-directed examination by the microcontroller of all the television programming information stored in the random access memory of the system and the retrieval of a subset of that information which meets the criteria specified by the user for display on the television set." *Id.* at 526.

On appeal, Gemstar challenges the court's construction of this claim limitation. According to Gemstar, the claim phrase does not require a search of all television programming information stored in memory. Gemstar specifically argues that the *882 district court's analysis of this phrase did not address the absence of claim language requiring any particular method of searching, the specification's teaching that listings may be coded for searching, or the specification's discussion of searching less than all the information contained in the RAM.

EchoStar responds that the limitation at issue requires an examination of all the records in memory. In support, EchoStar notes that during prosecution the '578 patentees distinguished their invention over a prior art reference by arguing that in their system a "search of all the coded information is carried out by the microcontroller." EchoStar further explains that a search is not complete until all the items in memory that meet the search criteria have been located.

We begin with the claim language. Although claim 1 requires "a search on at least said updated television programming information contained in RAM," that requirement is not commensurate with examining all of the programming information in RAM. One of the dictionary definitions of "search" is "to look into or over carefully or thoroughly in an effort to find something." *Webster's Third New International Dictionary* 2048 (1993). This definition, however, says nothing about how the search is to be conducted. Thus, the ordinary dictionary meaning of the disputed language covers any method of searching the program listings stored in RAM to retrieve those that satisfy a user's search criteria. It does not require that all the records in memory be searched as urged by EchoStar.

An examination of the specification does not overcome the presumption that the patentees intended to adopt the ordinary meaning. The two specification excerpts relied upon by the district court in construing this language state that a search is conducted on the information in the RAM, without specifying what portion of the RAM, and emphasizes that only the requested information is retrieved. '578 patent, cols. 5-6. These excerpts do not expressly or implicitly limit the search to "all" the program listing information in memory or otherwise limit the covered method of searching.

EchoStar's main argument in support of the district court's construction is that the '578 patentees disclaimed all searches other than a search that touches all records. EchoStar maintains that during prosecution of the '578 patent, the Examiner rejected the asserted claims in view of the Skerlos reference. Skerlos discloses an invention that allows the user to assign a location in memory where a desired telephone number is stored. To retrieve a stored telephone number, the Skerlos user enters the specific address location to recall the number from memory. In response to the Examiner's rejection, the patentees explained that in Skerlos "no search of the information in RAM takes place." The patentees further stated that the '578 patent involves "a search of all of the coded information." EchoStar focuses on this statement to argue that it mandates a claim construction that requires examination of all the records in memory.

We are not persuaded by EchoStar's reliance on the prosecution history to support the district court's construction for two reasons. First, the '578 patentees were merely distinguishing their invention from one that requires no searching at all by pointing out that their invention provides for searches of coded information stored in memory. They did not clearly disavow the scope of searches covered by claim 1 because Skerlos did not conduct any type of search. See Amgen, 314 F.3d at 1327. Moreover, a statement that a search is *883 conducted on "all of the coded information" is not commensurate with an examination of every piece of data stored in memory. If the memory is ordered in such a way that a search of only part of the memory can retrieve all the records that meet the user's criteria, the search has been conducted on all the coded information without having examined every record in memory. EchoStar does not argue that such a search is not possible or that the '578 specification does not enable such a search. Indeed, the specification contemplates that the "microcontroller 60 must be logically arranged ... [i]n

order to accomplish the quick display of the requested information." '578 patent, col. 5, ll. 55-57. Accordingly, we conclude that the claim phrase "to perform a search" means any examination of the program listings stored in RAM to find those that meet a user's search criteria.

D. "Desired format"

[9] Lastly, we turn to the disputed claim phrase "desired format." The district court construed the phrase "desired format" to mean "a user selected format for the display of the results of the search performed by the system. Although additional information may be provided to the system by the service provider, the format for viewing that information is viewer directed." SuperGuide Corp. 169 F.Supp.2d at 526-27.

On appeal, Gemstar does not challenge the district court's construction of this claim phrase. Rather, in response to EchoStar's position, it contends that the court never applied the claim phrase "desired format" in granting summary judgment of non-infringement in favor of the defendants and never made findings of fact about whether that limitation is met by any of the accused devices. Gemstar further notes that the record cited by EchoStar to support its argument on this issue addresses only whether the accused devices met the separate limitation of "to perform a search" under the doctrine of equivalents.

EchoStar argues that the district court properly granted it summary judgment of non-infringement on the ground that its accused devices do not meet the "desired format" limitation. According to EchoStar, the court interpreted the phrase "desired by the viewer in a desired format" as requiring that: (1) the desired display format of the search results (a subset of schedule data) be "viewer directed" rather than determined by the IRD or pre-selected by the service provider; and (2) three display formats be available for the user to choose from--entire screen, window or overlay. EchoStar contends that based on the application of this construction to its accused devices, the court correctly granted summary judgment in its favor. Specifically, it argues that the court made a factual finding that its devices do not allow the viewer to choose among entire screen, window, or overlay display formats in viewing subset search results.

Because the parties do not argue for a construction of "desired format" that is contrary to the one provided by the district court, we do not reinterpret that phrase. We do not agree with EchoStar that the district court interpreted this phrase as requiring three display

formats or that the court granted summary judgment of non-infringement based on the "desired format" limitation not being met by the accused devices. The part of the district court's summary judgment decision relied upon by EchoStar to support its position does not address the "desired format" limitation. Rather, as Gemstar argues, it addresses only whether the accused devices met the separate claim limitation "*884 to perform a search" under the doctrine of equivalents.

To the extent that EchoStar argues that the district court's findings in addressing the "to perform a search" limitation nevertheless entitle it to summary judgment of non-infringement under the "desired format" limitation, we decline to make such a finding. See *Dayco Prods., Inc. v. Total Containment, Inc.*, 258 F.3d 1317, 1328 (Fed.Cir.2001) (stating that "[w]e decline Dayco's suggestion to enter summary judgment of infringement in its favor since this question is best addressed first by the district court using a proper claim construction").

E. Conclusion

We have further considered SuperGuide's separate arguments with respect to the '578 patent and conclude that they are either redundant of the arguments asserted by Gemstar or lack merit. Accordingly, we reverse the district court's construction of the claim phrase "to perform a search" to the extent discussed above. Specifically, we adopt the construction urged by Gemstar to clarify that the term "search" does not require an examination of all the records in RAM. We further affirm the court's construction of the phrase "desired format."

IV. '211 PATENT

A. Background of the '211 Patent

The '578 invention presented two drawbacks that posed an economic obstacle to its commercialization. These were the necessity for (1) RAM capable of storing voluminous information and (2) a high-speed processor capable of processing that information. The '211 patent, applied for in 1989 and issued in 1991, addressed these problems by allowing selective storage of only the television program schedule information (or "schedule listings") desired by the user. This invention operates by comparing the received television program schedule listings to the user chosen criteria and determining whether to store portions of the received program schedule information.

SuperGuide disputes the claim construction of language in claim 1, which includes "means-plus-function" claim limitations. The relevant

portion of claim 1 with the disputed claim language underlined reads as follows:

An online television program schedule system comprising:

first means for storing *at least one of* a desired program start time, a desired program end time, a desired program service, *and* a desired program type;

means for receiving television program schedule information, said television program schedule information comprising *at least one of* program start time, program end time, program service, *and* program type for a plurality of television programs; second storing means, connected to said first storing means and said receiving means, for storing selected portions of received television program schedule information which *meet at least one of* the desired program start time, the desired program end time, the desired program service, *and* the desired program type; and....

'211 patent, col. 8, ll. 4-27 (emphases added).

SuperGuide generally argues on appeal that the district court's interpretation of the disputed language in claim 1 is inconsistent with the claim language, the specification and the prosecution history. [FN7]

FN7. Gemstar adopts SuperGuide's arguments with respect to the district court's claim construction of claim 1 of the '211 patent and its grant of summary judgment of non-infringement of that claim by EchoStar.

*885 B. "At least one of"

[10] The phrase "at least one of" also appears in claims 2, 5 and 6. [FN8] SuperGuide does not dispute that this phrase should be construed to have the same meaning in each instance. In interpreting this phrase, the district court concluded that the term "a desired," which precedes "at least one of," is repeated for each category and because the final category in the criteria list is introduced by "and a desired," the list is conjunctive. *SuperGuide Corp.*, 169 F.Supp.2d at 517. The court also concluded that accepting SuperGuide's position that "at least one of" refers only to one category of the criteria would contradict the purpose of the invention as described in the written description, as depicted in Figure 4a and recited in claim 1. *Id.* Thus, the court construed the phrase "at least one of ... and" as meaning "at least one of each desired criterion; that is, at least one of a desired program start time, a desired program end time, a desired program service and a desired program type. The phrase does not mean one or more of the desired criteria but at a minimum one category thereof." *Id.*

FN8. We note that the district court stated that SuperGuide withdrew allegations that the defendants' products infringe claims 2, 5 and 6. DirecTV, however, does not contest that claims 1, 2, 5 and 6 have been asserted in this case.

On appeal, SuperGuide contends that the claim phrase "at least one of" unambiguously requires the selection and storage of *one or more* of the four listed criteria (start time, end time, service channel, or type) and does not require storing all four criteria. SuperGuide first argues that the patentee's use of the term "and," rather than "or," was dictated by then-existing United States Patent and Trademark Office ("PTO") rules and further that it did not have the opportunity to fully develop this point below because of the court's moratorium on filing papers. As further support, SuperGuide cites to examples in the specification that describe a user who has chosen only two desired programming criteria (e.g., start time and stop time). In addition, SuperGuide contends that the district court erroneously relied on Figure 4a in its analysis because that figure does not cover the asserted claims. SuperGuide lastly emphasizes that during prosecution the patentee repeatedly characterized the invention as requiring the presence of *one or more* of the four listed criteria and interchangeably used the terms "or" and "and."

DirecTV counters that the district court's construction is supported by the patentee's use of the conjunctive word "and" and by the grammatical rule requiring that the phrase "at least one of" be applied to each category in the list. Moreover, it disputes SuperGuide's arguments that the patentee used "and" out of necessity and that it could not introduce relevant evidence on that point. With respect to the specification, DirecTV contends that every disclosed embodiment of a desired criteria list, including Figure 4a, teaches a conjunctive list that is consistent with the plain meaning of the claim language. Responding to SuperGuide's argument, DirecTV maintains that even though Figure 4a relates to a data structure involving the transmission of data in packet form, claim 1 is written to also cover such a system. DirecTV lastly argues that accepting SuperGuide's prosecution argument would improperly allow the prosecution history to enlarge the claim scope beyond its ordinary meaning. DirecTV also points out *886 that the '211 patentee never explicitly stated that "and" should be interpreted as "or" in the claim language and they did not refute the Examiner's characterization of the criteria list as being conjunctive.

We conclude that the plain and ordinary meaning of the disputed language supports the district court's construction and that the phrase "at least one of" means "one or more." *Rhine v. Casio, Inc.*, 183 F.3d 1342, 1345 (Fed.Cir.1999). The issue here is what does "at least one of" modify? The criteria listed in the claim at issue consist of four categories (program start time, program end time, program service, and program type). Each category is further comprised of many possible values. SuperGuide contends that the phrase "at least one of" modifies the entire list of categories, i.e., selection and storage of one or more values for one or more of the four listed categories is required. [FN9] DirecTV, on the other hand, argues that the phrase "at least one of" modifies each category in the criteria list, i.e., one or more values in each category are required.

FN9. We note that SuperGuide characterizes the four claimed categories as "alternative criteria," but because each consists of more than one value, i.e., "a desired program start time" comprises many possible start times, they are more aptly called categories.

We agree with DirecTV. The phrase "at least one of" precedes a series of categories of criteria, and the patentee used the term "and" to separate the categories of criteria, which connotes a conjunctive list. A common treatise on grammar teaches that "an article of a preposition applying to all the members of the series must either be used only before the first term or else be repeated before each term." William Strunk, Jr. & E.B. White, *The Elements of Style* 27 (4th ed. 2000). Thus, "[i]n spring, summer, or winter" means "in spring, in summer, or in winter." *Id.* Applying this grammatical principle here, the phrase "at least one of" modifies each member of the list, i.e., each category in the list. Therefore, the district court correctly interpreted this phrase as requiring that the user select at least one value for each category; that is, at least one of a desired program start time, a desired program end time, a desired program service, and a desired program type. [FN10]

FN10. Indeed, SuperGuide does not articulate its argument that "at least one of" means "one or more of the four listed criteria" without using the term "or" to separate the four listed categories. See *Brown v. 3M*, 265 F.3d 1349, 1352 (Fed.Cir.2001) (interpreting the phrase "at least one of two-digit, three-digit, or four-digit year-date representations" as "only two-digit, only

three-digit, only four-digit, or any combination of two-, three-, and four-digit date-data").

We are also not persuaded by SuperGuide's argument that the '211 patentee was precluded from using "or" in place of "and" as a result of the PTO rules that were applicable at the time the '211 patent application was prosecuted. In support of this argument, SuperGuide refers only to a portion of the Manual of Patent Examining Procedures ("MPEP"), which states:

Alternative expressions such as "brake or locking device" may make a claim indefinite if the limitation covers two different elements. If two equivalent parts are referred to as "rods" or "bars," the alternative expression may be considered proper.

MPEP § 706.03(d) (1990). According to SuperGuide, at least some of the criteria referred to in the claims at issue, such as "program start time" and "program type," are not equivalent in the same sense that a "rod" may be equivalent to a "bar." SuperGuide's argument lacks merit for three reasons. First, the cited MPEP rule only *887 states that the given example "may make a claim indefinite," it does not absolutely preclude such alternative expression. Moreover, the example given is distinguishable from the language the '211 patentee could have arguably used here because the modifying phrase "at least one of" does not precede the alternatives in the example. The use of the phrase "at least one of" in the claims at issue provides definiteness that is not present in the example provided in the MPEP rule. [FN11] Lastly, even assuming arguendo that the patentee drafted the claim at issue in response to the PTO's instructions on avoiding indefiniteness, we fail to see how this instruction compels us to construe the term "and" as "or."

FN11. Having concluded that the '211 patentee was not precluded from using the term "or," we do not address SuperGuide's argument that the patentee was also precluded from using a "Markush" format.

We further conclude that nothing in the specification rebuts the presumption that the '211 patentee intended the plain and ordinary meaning of this language. See Tex. Digital, 308 F.3d at 1204. Every disclosed embodiment teaches that the user must choose a value for each designated category. See, e.g., '211 patent, fig. 1. The written description explains that in this embodiment "the [predetermined] selection criteria 17 may include a desired service list 17a, a desired types of programming list 17b, desired times of listings 17c

and other criteria 17d." Id. at col. 4, ll. 23-26. SuperGuide points to another part of the written description, describing the same embodiment, which states the following:

[f]or example, if a user is only at home in the evening he may only wish to view listings from 6 p.m. to 11 p.m. Other criteria 17d may also be selected or provided.

Id. at col. 4, ll. 49-52. This description, however, does not teach that a value for less than all the designated categories can be chosen. Further, "[o]ther criteria" refers to either another category or another list of categories that require values. [FN12] In other words, it explains that other categories, besides the ones specified, are possible.

FN12. DirectTV contends that 17a-d in Figure 1 are "alternative lists of categories of criteria," whereas SuperGuide contends that they are "alternative criteria." We find it unnecessary to resolve this dispute. In either case, the figure does not teach a conjunctive list of categories.

We also conclude that Figure 4a of the '211 patent supports the plain and ordinary meaning of the asserted claims. This figure and its corresponding explanation are the only parts of the specification that explain how only certain portions of the transmitted schedule information are stored. The figure consists of a flow chart describing a method for storing portions of the received schedule information according to the chosen criteria. The method compares the received information to determine whether the information "meets" [FN13] all the criteria chosen by the user. Importantly, the flow chart uses a conjunctive criteria list, i.e., the system's user must choose at least one value for each designated criteria, or the logic would be inoperable. '211 patent, fig. 4a.

FN13. The meaning of this term is discussed below.

SuperGuide argues that Figure 4a is inapplicable to the construction of the disputed language because the figure relates to the processing of received information that has been transmitted in group format whereas the asserted claims do not require such a group format. We disagree. The asserted claims do not require the transmission *888 of schedule information in any particular format. Thus, the asserted claims could cover a system with schedule information that is transmitted in group format. There is also no suggestion in the specification that Figure 4a

is applicable only to the transmission format disclosed in the figure. Indeed, the specification states that Figures 4a-4c "are a block diagram illustrating the logic and sequence of operations for storing broadcast TV program information according to the *present invention.*" *Id.* at col. 3, ll. 41-44 (emphasis added).

Lastly, we decline to enlarge the claim scope from its plain and ordinary meaning based on the prosecution history in this case because the '211 patentee did not clearly and explicitly define the term "and" in the covered criteria list as "or." [FN14] See *N. Telecom, 215 F.3d at 1295* (holding that vagueness and inferences in the prosecution history do not rebut an ordinary meaning of a claim term).

[FN14] SuperGuide argues that the district court erred by failing to consider the '211 prosecution history. However, because the claim construction is unaffected by the prosecution history, any error was harmless. See *Lemelson v. United States, 752 F.2d 1538, 1550 (Fed.Cir.1985)* (holding that the district court properly interpreted the claim at issue, and the court's failure to consider the prosecution history was therefore harmless error not meriting reversal).

C. "Meet"

Lastly, we turn to the disputed claim term "meet." The relevant part of the third limitation of claim 1 of the '211 patent with the disputed term underlined reads as follows:

second storing means ... for storing selected portions of received television program schedule information which *meet* at least one of the desired program start time, the desired program end time, the desired program service, and the desired program type

'211 patent, col. 8, ll. 16-22 (emphasis added). The district court construed this term to mean "that the information matches or equals at least one of each of the desired criteria, not one or more categories thereof." *SuperGuide Corp., 169 F.Supp.2d at 528.*

Acknowledging the variety of dictionary definitions for the term "meet," SuperGuide advocates "satisfies" as the one definition that makes most sense as used in claim 1. It further maintains that it preserved its right to assert this construction. According to SuperGuide, this definition subsumes, but is not limited to, the district court's construction. It further contends that the court's construction precludes certain embodiments disclosed in the specification that describe a viewer entering a start and end time and

receiving a range of program listings falling within that period. SuperGuide argues that construing "meet" as "satisfies," however, allows a selection of a range of times, services, and types. Additionally, SuperGuide maintains that by citing a specification passage describing the operation of the "group format transmission" embodiment, the court erroneously imported an unclaimed comparison function into the "second storage means" limitation of claims 1 and 5. Lastly, SuperGuide contends that the passage cited does not support the court's construction.

DirecTV responds by first making a procedural argument that SuperGuide conceded before the district court that "meet" means "equal to or matching" and thus waived its right to assert a different construction on appeal. On the merits, DirecTV argues that the term "satisfies" is more indefinite than "meet" and also that *889 the specification, particularly Figure 4a, is consistent with the district court's construction. In this regard, DirecTV explains that in Figure 4a, "meet" defines the comparative test that compares the received program schedule listings with the user chosen criteria.

[11] We agree with DirecTV that SuperGuide waived its right to assert a construction other than "matches or equals" for the term "meet." Before the district court, DirecTV and EchoStar agreed that the term "meet" means "equal to or matching" and they presented this construction in their consolidated brief. In its reply brief, SuperGuide agreed that the term "meet" should be interpreted as "matches or corresponds." The parties filed a stipulation before the *Markman* hearing listing all the disputed terms that required construction and the term "meet" was not listed. Nevertheless the term came up at the hearing and SuperGuide made the following comments: [FN15]

[FN15] Gemstar did not dispute these comments.

[T]he next term that [defendants] go to is meet. There are two interesting things about the meet term. First of all, they say it's got to be exactly and you've got to have identity of what you're talking about. And I don't think there's any disagreement that meet means that it's equal to. Where there's disagreement is that in their comments concerning that claim, they are trying to say that the only thing that it can be is exactly or the identity. And what that leaves out is the analysis under the comprising claim that it can do more than just meet. It can meet it, and it can also do other things along the way because the claim reads comprising. And, so, it has a certain number

of things that are within the claim, and if a defendant is out there doing those things plus something else, they can still be found to infringe the claim. And that's exactly the type of thing they're trying to prevent in this case because there may be other things that they're doing in addition to that.

(Emphasis added). SuperGuide argues that these comments demonstrate its efforts to broaden the scope of the term "meet" as used in the claim at issue. We disagree and conclude that this discussion by SuperGuide shows that it agreed that "meet" means "equal to." Rather, it was arguing about the meaning of the term "comprising" in the preamble of the asserted claims. It was making the point that an accused product infringes a claim if it "exactly" meets every limitation and thus has "identity" with the claim. See *Omega Eng'g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1328 (Fed.Cir.2003); *Catalina Mktg. Int'l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 812 (Fed.Cir.2002) (stating that whether an accused system literally infringes an asserted claim depends on whether it "meets every limitation" recited in the properly construed claim). SuperGuide was further noting that an accused product infringes a "comprising" claim if it meets every limitation and also has additional components. See *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 811 (Fed.Cir.1999) (stating that "comprising" is "generally understood to signify that the claims do not exclude the presence in the accused apparatus or method of factors in addition to those explicitly recited"). Because we conclude that SuperGuide is now proffering a broader definition of "meet" than it advocated before the district court, we decline on appeal to address SuperGuide's new construction. See *Interactive Gift Express, Inc. v. Compuserve, Inc.*, 256 F.3d 1323, 1346 (Fed.Cir.2001) (discussing cases in which the *890 appellate court applied the doctrine of waiver to preclude a party from adopting a new claim construction on appeal because the new construction proffered on appeal changed the scope of the claim construction asserted before the trial court).

In conclusion, we affirm the district court's construction of the claim language "at least one of" and "meet."

V. '357 PATENT

A. Background of the '357 Patent

The '357 patent' allows a viewer to use the program schedule listings stored in an IPG to control a recording device, such as a VCR. The program listings include such information as the time, channel, title, program type and subtype, service provider, and a description. In the prior art, these listings could be

stored in "volatile" memory. The information was lost, however, in the event of a power failure. The listings could also be stored in "non-volatile" memory to prevent the loss of recording instructions in the event of a power failure. Because large amounts of memory were required to store the program listing information, however, the use of non-volatile memory was expensive.

The '357 patent' addressed this drawback by storing entire schedule information in volatile memory and the minimal information necessary for controlling a recording device in non-volatile memory. Thus, when a viewer chooses a program for recording, the listing is "automatically electronically converted" into an "event timer information sequence," which includes only the minimal amount of information actually needed to control a recording device-- start time, stop time or duration, and channel. The system then stores this information in the non-volatile memory of an event timer, which is located either in the VCR or external to the VCR.

Gemstar disputes the construction of claim 1 of the '357 patent'. The relevant part of this claim with the disputed language underlined reads as follows:

A method for setting an event timer to control a recording device for recording television programs, comprising the steps of:

...

automatically electronically converting the selected ones of said television program schedule listings into event timer information sequences for directly controlling a recording device to record television programs in response to the user designation of selected ones of the electronically stored television program schedule listings for recording, said event timer information sequences including a television program start time, a television program end time or duration and a television program channel for each of the user selected ones of the television program schedule listings; and

...

loading the event timer information sequences into an event timer, such that the event timer information sequences in the event timer are used to control a recording device for recording television programs corresponding to the selected ones of the electronically stored television program schedule listings.

'357 patent, col. 8, ll. 16-42 (emphases added). On appeal, Gemstar generally argues that the district court ignored the plain language of the claim, improperly

imported a number of limitations from the specification into the claim, and ignored a disclosed embodiment contradicting its *891 construction. [FN16] We review each of the disputed claim phrases in turn.

FN16. SuperGuide adopts Gemstar's arguments regarding the claim construction of the '357 patent.

B. "Automatically electronically converting"
[12] We first focus on the disputed claim language "automatically electronically converting." In construing this language, the district court noted that, according to the specification, those skilled in the art would understand that many techniques for loading event timer information into the event timer may be used depending upon the particular configuration of the schedule information and event timer information. *SuperGuide Corp.*, 169 F.Supp.2d at 523-24. The specification further notes that one of these techniques is the conversion of the event timer information into appropriate digital electronic signals. *Id.* at 523. Thus, the court construed the phrase "automatically electronically converting" as meaning:

a change in form of the selected television program listings by an electronic means without further involvement of the system's user. Conversion is not extraction of information but an actual change in form of the information. The change or conversion results in event timer information sequences which can be processed by the configuration of the particular recording device and television involved. *Id.* at 529. The court further concluded that because the program listings are converted into event timer information sequences, the "start," "stop," and "channel" information must also be converted. *Id.* at 524.

Gemstar argues on appeal as it did before the district court that "automatically electronically converting" means each television program listing selected by the user for recording is automatically converted by electronics into "event timer information sequences" that provide the information necessary to control the recording device. According to Gemstar, the appropriate dictionary definition of "convert" is "to change or turn from one state to another; alter in form, substance, or quality." *Webster's Third New International Dictionary* 499 (1993). Gemstar contends that this plain and ordinary meaning does not require or disclaim any particular method of conversion. Rather, it only requires that a program listing as a whole undergo a conversion. Thus, Gemstar maintains that claim 1 does not cover a

device that copies the entire selected program listing from the program guide and stores it in the "event timer," but does cover a system that copies less than all, or a subset, of the program listing and stores it in the "event timer." Next, relying on the specification, Gemstar contends that the '357 patent does not require each field stored in the event timer to be separately converted. With respect to the prosecution history, Gemstar argues that the patentee did not disclaim all forms of "extraction" by distinguishing the Kinghorn reference. Lastly, Gemstar disagrees that the claimed "converting" must result in "event timer information sequences" that are appropriate to a particular VCR.

Thomson responds first that the plain and ordinary meaning of the disputed phrase is the process of changing from one form or format to another; where information is concerned, a changeover that affects form but not substance. [FN17] According to *892 Thomson, no dictionary includes "extraction" as a definition of electronic conversion. Moreover, relying on the prosecution history, Thomson contends that the '357 patentee specifically disclaimed "extraction" as a possible interpretation of "converting."

FN17. EchoStar, DirecTV and Hughes adopt Thomson's arguments with respect to the '357 patent.

We agree with Thomson that the '357 patentee specifically disclaimed "extracting" from being covered by "directly electronically converting" when distinguishing the prior art Kinghorn reference. See *Tex. Digital*, 308 F.3d at 1204; *Teleflex*, 299 F.3d at 1325 (stating that there must be a "manifest exclusion or restriction, representing a clear disavowal of claim scope"). Kinghorn involves the transmission of teletext information consisting of viewable program listings and non-visible VCR control information. When a viewer of the Kinghorn system selects a program for recording, the non-visible VCR control information is copied or extracted in full from memory and restored in other memory, which is used to control a VCR. In distinguishing Kinghorn, the '357 patentee made the following comments:

Since the information is already in the stored program schedule listings, Kinghorn's controller need not effect any conversion of television program listings into event timer information for directly controlling a recording device. Kinghorn's microcontroller 9 need only extract programming information from a page stored in memory and restore this programming information into memory 15.... Conversion is neither described nor suggested. Counsel reiterated that Kinghorn's microcontroller

does not have conversion means because it performs the function of "extract[ing] ... programming information from a page stored in the page memory and the re-stor[ing] of the programming information in the memory."

On appeal, Gemstar argues that the '357 patentee did not disclaim all forms of "extraction" because Kinghorn "extracts, and does not convert, non-visible codes and neither extracts nor converts visible program information." We conclude, however, that the patentee disclaimed more than just the extraction of non-visible code. Indeed, the visible versus non-visible information distinction Gemstar draws on appeal is not found in the prosecution history. Rather, during prosecution, the patentee emphasized that because the VCR control information in Kinghorn "is already in the stored program schedule listings," the microcontroller only extracts programming information from one memory and restores the information into another memory. He stated that this process neither describes nor suggests "conversion." The district court, therefore, properly interpreted "automatically electronically converting" as excluding extraction or copying of information from memory and restoring it into alternate memory.

We, however, disagree with Thomson that the claimed "conversion" must result in event timer sequences that are appropriate to a particular VCR. In support of its argument, Thomson relies on the specification and the prosecution history. Thomson first notes that the specification states that the conversion of the program listing information is into "appropriate" start time, stop time or duration, and channel number. *'357 patent*, col. 7, ll.41-50. This excerpt does not lead to the conclusion that claim 1 is limited to a particular VCR. Indeed, the specification teaches that additional signals must be generated to control recording event after program listings are converted into "event timer information sequences." *Id.* at col. 3, ll. 51-52; col. 6, ll. 33-34 (stating that the event timer controls the VCR according to *893 its well known function by sending appropriate signals).

The prosecution history upon which Thomson relies, in our view, further confirms that claim 1 covers a system that is compatible with every brand and type of VCR. Indeed, the patentee distinguished Kinghorn, in which the VCR control information "may not be compatible with every brand and type of VCR" by arguing that the conversion means of the present invention "can be adapted for *any* particular VCR." (Emphasis added).

Accordingly, we affirm the district court's construction of "automatically electronically converting," but clarify that the claimed "conversion" does not require that the "event timer sequences" be capable of controlling a particular VCR.

C. "For directly controlling a recording device"
[13] We next turn to the phrase "for directly controlling a recording device." In construing this phrase, the district court reasoned that the purpose of the present invention was to provide a commercially viable system by use of a "small nonvolatile memory" to turn on or control the recording device. *SuperGuide Corp.*, 169 F.Supp.2d at 525. The district court therefore construed this phrase as meaning that "the event timer sequences [stored in the nonvolatile memory of an event timer] are used to turn on or control the recording device; however, only the [sic] those sequences are so used and stored." *Id.* at 529-30.

According to Gemstar, the disputed phrase means that the "[e]vent timer information sequences stored in an event timer are used to provide the information and generate the signals that are necessary to control a recording device." Thus, Gemstar maintains that the court's construction, as modified by its summary judgment ruling, erroneously interpreted the instant phrase as excluding electronic signals generated by the "event timer information sequences" to control the recording device, including infrared signals. Gemstar also contends that the asserted claim does not require that recording be "directly controlled" from non-volatile memory.

Agreeing with the district court's construction, Thomson argues that "directly controlling" means that the event timer information sequences, not the program schedule information, control the recording device. Thomson further contends that the event timer information sequences control recording completely independent from the program schedule information after the "event timer" is loaded. Accepting that there is no generally accepted meaning in the art for the phrase "directly controlling," Thomson maintains that the specification and prosecution history show that the '357 patentee used "directly controlling" to mean that only event timer information sequences are used to control the recording device. In addition, Thomson asserts that Gemstar agreed before the district court that "no additional schedule information from the stored television program schedule information beyond that loaded into the event timer is used to control the recording device." Lastly, in response to Gemstar's argument, Thomson asserts that nothing in the court's construction excludes the use of infrared

activation signals in the process of "directly controlling"; it only excludes the use of program guide information to control recording.

The phrase "directly controlling" does not have an accepted meaning in the art and we therefore look to the specification for the necessary guidance in interpreting *894 this phrase. [FN18] The asserted claim requires that recording be "directly controlled" from the nonvolatile event timer memory rather than the schedule listings contained in volatile memory. Indeed, this is the purpose of the '357 patent. The specification teaches that the claimed system does not control the recording device directly from the schedule information. '357 patent, col. 3, ll. 39-41. Rather, this information is used to load an event timer with "event timer information." *Id.* at col. 3, ll. 41-43. "The event timer then controls the [recording device]." *Id.* at col. 3, l. 43. In order to maintain unattended control of recording by the VCR after a power interruption, only the event timer need be made of nonvolatile memory. See *Id.* at col. 3, ll. 58-60. The specification further explains that because the event timer only requires time and channel information for a limited number of events, the nonvolatile memory can be small and thus not prohibitively expensive. *Id.* at col. 3, ll. 60-65.

FN18. We note that Thomson agrees that the disputed phrase does not exclude the use of activation signals, such as infrared signals, to control recording. Thomson does argue that this construction was not a basis for the court's non-infringement finding. Because we are remanding this case for further proceedings, we do not find it necessary to resolve this factual dispute.

In addition, although the event timer must control the recording device, the claim does not exclude the event timer from referring back to or accessing the schedule information before recording occurs. The patent emphasizes that the "VCR event timer information exists independent of the information in the TV schedule listings." *Id.* at col. 6, ll. 18-20 (emphasis added). Thus, the ability to record the designated program is not lost if the TV schedule listings are lost or discarded. *Id.* at col. 6, ll. 8-18. Further, if the TV schedule listings are updated, the event timer information sequences are not automatically updated and may not reflect the updated schedule listings. *Id.* at col. 6, ll. 13-17. The patent does not, however, exclude the event timer from referring back to or accessing the stored schedule information before controlling the recording device, e.g., to update the

event timer information sequences. The claim only requires that the VCR control information exist independently of the program listing information and that at the time of recording "[t]he event timer ... controls the [recording device]." *Id.* at col. 3, l. 43.

Nothing in the prosecution history dissuades us from this construction. Thomson notes that the '357 patentee distinguished Kinghorn during prosecution because it did not describe television schedule listings which are free of information for directly controlling a recording device. This distinction only confirms that in the claimed invention the VCR control information exists independently from the program listing information.

Accordingly, we adopt Gemstar's definition of "for directly controlling a recording device" as meaning that the "[e]vent timer information sequences stored in an event timer are used to provide the information and generate the signals that are necessary to control a recording device." The district court's construction is modified to the extent discussed above.

D. "Event timer"

[14] The last disputed phrase we address is "event timer." Based on the same reasoning it relied upon in construing the disputed phrase discussed above, the district court construed "event timer" to mean "nonvolatile memory for storing the event timer information sequences used to *895 control directly the recording of the selected television program. It does not include multiple memories." *SuperGuide Corp.*, 169 F.Supp.2d at 525, 529-30.

According to Gemstar, this phrase means "at least nonvolatile memory and logic for storing 'event timer information sequences' that are used to control the recording of a television program. It may include additional information and memories as well, including volatile memory." Gemstar contends that the court erred in holding that the claimed "event timer" may store only "event timer information sequences" because claim 1 is a "comprising" claim. In support of its proffered construction, Gemstar first argues that the plain language of claim 1 does not limit the type or number of memories used by the event timer. Gemstar also points out that claim 1 is a "comprising" claim. With respect to the specification, Gemstar contends that the district court inserted the requirement of a single, nonvolatile memory by relying solely on one embodiment while ignoring another embodiment, Figure 2, which discloses an event timer with two memories.

According to Thomson, the "event timer" element requires non-volatile memory for storing the event timer information sequences which directly control the recording device. Thus, Thomson maintains that the court's construction does not exclude multiple event timers, but the particular event timer that controls recording must be nonvolatile. In support, Thomson relies on the specification and prosecution history to point out that one of the primary objectives of the '357 patent' is to store VCR control information in the nonvolatile memory of the event timer so that it is not lost in the event of a power failure. Lastly, in response to Gemstar's argument about Figure 2, Thomson explains that it is an embodiment of claim 4, which depends on claim 1, and covers a second event timer located externally to the recording device.

As with the previous phrase, the disputed phrase "event timer" does not have a plain and ordinary meaning in the art. The claim language does not limit the "event timer" from consisting of multiple memories or event timers. In addition, the specification teaches that the event timer that directly controls the recording device must consist of nonvolatile memory. As we discussed above, the specification emphasizes that storage of the event timer information in nonvolatile memory is necessary if the system is to control recording even if the memory containing the program schedule listings is erased by a power interruption. *See '357 patent*, col. 3, ll. 47-65. Furthermore, Figure 2, which is an embodiment of claim 4, consists of two event timers. However, the specification teaches that one of the event timers consists of nonvolatile memory and it is this memory that controls the recording device. *Id.* at col. 6, ll. 20-39.

The prosecution history further supports this construction. During prosecution, the '357 patentee emphasized that in the claimed invention the schedule listings are automatically converted into event timer information and stored in the event timer such that if the schedule information is lost, the VCR programming information will not be lost. This purpose can be fulfilled only if the event timer memory that controls the recording device consists of nonvolatile memory.

Accordingly, we accept Gemstar's construction and define "event timer" as meaning "at least nonvolatile memory and logic for storing 'event timer information sequences' that are used to control the recording of a television program." The event timer also may include additional information and memories, including volatile *896 memory. However, the

nonvolatile event timer memory containing the event timer information sequences must directly control the recording device.

VI. OTHER ISSUES

Because we remand this appeal for further proceedings, including infringement findings based on the revised claim construction, we also remand Thomson's motion for summary judgment of non-infringement based on its sub-license from Gemstar and Gemstar's breach of contract and declaratory judgment cross-claims against SuperGuide.

VII. CONCLUSION

We affirm in part and reverse in part the district court's claim construction as discussed above. We further vacate the district court's judgment of non-infringement and remand for further proceedings consistent with this opinion. Because the claim construction set forth in this opinion is derived from the arguments raised by the parties, they are presumed to have had ample notice of how their proposed claim constructions would be read in the context of other claim language. Therefore, the parties are precluded from raising new construction issues regarding other claim language. We have considered all the remaining arguments raised by the parties and to the extent any argument is not discussed in this opinion, we conclude that it lacks merit.

No costs.

*AFFIRMED-IN-PART, REVERSED-IN-PART,
VACATED and REMANDED.*

MICHEL, Circuit Judge, concurring in the result.

The majority's claim constructions expand the scope of the '578 patent' far beyond what the named inventors say they actually invented in their application, and what it describes and enables. Thus, the patent now covers home receivers for digital television signals not even transmitted by television stations until nearly a decade after the '578 patent' issued. Further, the court's constructions ignore the expert declarations and rely instead on a literalistic and abstract reading of the term "signal," and the absence of a clear disavowal of digital signals in the specification or claim language. Indeed, under the court's analysis, the term "regularly received television signal" would have to have read "regularly received *analog* television signal" for it to be limited to the technology actually in use at the time. With such fundamentally incorrect constructions and methods, I must respectfully disagree.

Construing "regularly received television signal," "radio frequency information," and "mixer" in the '578 patent, the majority holds that these terms encompass receiving and processing digital signals not transmitted by television broadcasters at the time the patent issued. As in the majority opinion, I treat these three terms together because they present the common issue of whether digital signals fall within the literal scope of the claim; that is because the latter two terms involve downstream processing of the "regularly received television signal."

The majority's only support for its broad meaning of "regularly received television signal" as encompassing digital television signals is that, because digital television standards were under development in the early 1980s, and because videoconferencing and videotext systems transmitted digital data at the time, a person of ordinary skill in the art would have known that regularly received television signals could someday be transmitted in either analog or digital form. This statement ignores the fact that such videoconferencing and videotext systems *897 are distinct from systems for digital television signals from television stations, which were indisputably not broadcast until the mid-1990s. Moreover, the majority states that because the patentees were surely aware of the difference between digital and analog technology, having described certain intra-system digital data in their patent disclosure, they could have easily limited the "regularly received television signals" to analog signals, and that digital signals must be included because they did not. I disagree.

The question is not the meaning of the term, in isolation, to laymen or later, but whether "regularly received television signal" would have had a particular meaning to *one of ordinary skill* in the television art *at the time*, in the context of this patent disclosure. Though it cites to "indisputable" evidence of the state of the art at the time, the majority cites no evidence whatsoever indicating how one of ordinary skill in the art would have understood the critical claim term in 1985, despite expert declarations on that precise issue. [FN19] The majority never even mentions, much less rebuts, the declaration of Martin Sperber, an expert retained by DirecTV and Hughes. Mr. Sperber unequivocally asserted that in the 1985 time frame, one skilled in the art would have understood the phrase "a regularly received television signal" in claim 1 of the '578 patent to mean an "analog NTSC television signal transmitted from a regular television station," and that in 1985, "a person skilled in the television art would not have interpreted this to mean a

digital satellite signal." (emphasis added). S. Merrill Weiss, although an expert retained by Gemstar, confirmed that "[o]riginally, all television signals were analog signals" and only "[i]n the mid-1990's, various system providers *began* transmitting digital television signals." (emphasis added). Though Mr. Weiss went on to state that a "regularly received television signal" could be in digital or analog form, this assertion was not temporally limited to the 1985 time-frame. Nor could it have been. Superguide's expert, Teresa Dahlberg, noted that, while she had "not been asked to state opinions on the meaning of the claim language," she disagreed with "the essence of Mr. Sperber's opinions and regard[s] them as not correct as relates to the meaning of the claim language." Ms. Dahlberg did not, however, specifically contradict Mr. Sperber's two assertions about signal transmissions circa 1985 being analog signals, as quoted above. Neither did Ms. Dahlberg, or any other plaintiffs' expert, offer an opinion on how one of ordinary skill in the art would have read these terms in 1985. Surely, the declarations of these experts are the best evidence, particularly as the specification gives little, if any, guidance, and the two critical assertions of Mr. Sperber were not directly challenged by Mr. Weiss or Ms. Dahlberg.

FN19. Neither does the majority cite any technical treatises, technical dictionaries, or other technical publications, or contemporaneous or prior art patents, to support its ordinary meaning of "regularly received television signal."

In my view, the expert evidence briefly summarized above establishes that a person of ordinary skill in the art in 1985 would have read the critical claim term to mean only the analog television signals that were being regularly transmitted at the time, and not the later-developed, later-transmitted digital signals. [FN20] I therefore *898 cannot extend the literal scope of the claims to systems for receiving signal technology that was not then in use by the television industry, nor even conceived of and reduced to practice by these inventors, much less described and enabled in their '578 patent application filed in 1985. [FN21]

FN20. Though it is undisputed that digital signal technology was under development by other technologists in the mid-1980s, the patentees in this case were not developing systems that receive such signals. The claimed invention was, moreover, undeniably directed to marketable

commercial products for use in the home, not the laboratory. It is undisputed that, as of 1985, reception for home use was limited to analog television signals. Thus, claim construction here is less a matter of the state of the laboratory art than of the history of commercial television.

FN21. Nor does it matter that the district judge did not discuss the expert declarations in his opinion, as we must uphold trial judge rulings when supported by the record, even if not discussed in its opinion.

But the cause of my alarm extends far beyond this case. I am also concerned that the court's opinion relies on certain imprecise statements prior panels of this court have occasionally made in recent years concerning the "plain" or "ordinary" meaning of claim terms. Despite the now-common references to the "plain meaning" or "ordinary meaning" of claim terms, or even the "ordinary dictionary meaning" cited in the majority's opinion, our precedent requires that the correct meaning of claim terms is that determined from the standpoint of a person of ordinary skill in the relevant art and at the time of the patent. I am concerned then that the use of these "short-hand" expressions about ordinary meaning obscures the correct analysis, tempting panels to look for an "ordinary meaning" divorced from the proper perspective--the artisan's-- and the preferred, proper sources of interpretation--the disclosure, technical dictionaries, prior art patents, and expert testimony. The ultimate result of this trend is claim constructions providing the broadest possible scope to claim terms, absent express limiting language in the claim, specification or prosecution history, but regardless of what the inventors actually invented.

If we fall into such error, we may render ineffective the examination process at the Patent and Trademark Office, for patents will later get broader scope than what the examiner understood, and found new and non-obvious, and hence patentable, at the time. Such error also compromises two fundamental tenets of the patent system: first, that the applicant must be the "inventor" of the things covered by the patent claims, and second, that the right to exclude will be no broader than the inventor's enabling disclosure. The inventors here most assuredly did not invent a system that receives digital signals; their patent cannot therefore cover such systems.

Because I agree with the court that there is at least a triable issue as to infringement of the '578 patent' under

the doctrine of equivalents, I concur in the result as to the '578 patent'. As to its rulings respecting the other patents and terms, I have no disagreement with the majority and join its opinion.

358 F.3d 870, 69 U.S.P.Q.2d 1865

Briefs and Other Related Documents [\(Back to top\)](#)

- 2004 WL 3261002 (Appellate Petition, Motion and Filing) Joint Response to Appellees' Petition for Panel Rehearing and Rehearing En Banc (Mar. 19, 2004)[Original Image of this Document \(PDF\)](#)
- 2004 WL 3261070 (Appellate Petition, Motion and Filing) Appellees' Joint Petition for Rehearing and Rehearing En Banc (Feb. 26, 2004)[Original Image of this Document with Appendix \(PDF\)](#)
- 2003 WL 24027325 (Appellate Brief) Reply Brief for Defendant-Cross Appellant Thomson Consumer Electronics (Mar. 24, 2003)[Original Image of this Document \(PDF\)](#)
- 2003 WL 24027329 (Appellate Brief) Reply Brief for the Third Party Defendant-Appellant Gemstar Development Corporation (Mar. 05, 2003)[Original Image of this Document \(PDF\)](#)
- 2003 WL 24027328 (Appellate Brief) Reply and Opposition Brief for Plaintiff-Appellant Superguide Corporation (Mar. 04, 2003)[Original Image of this Document \(PDF\)](#)
- 2003 WL 24027326 (Appellate Brief) Brief for Directv Enterprises, Inc., Directv, Inc., Directv Operations, Inc., and Hughes Electronics Corporation Regarding The '211 Patent (Jan. 24, 2003)[Original Image of this Document \(PDF\)](#)
- 2003 WL 24027327 (Appellate Brief) Brief for Defendants-appellees Echostar Communications Corporation, Echostar Satellite Corporation, and Echostar Technologies Corporation Regarding U.s. Patent NO. 4,751,578 (Jan. 24, 2003)[Original Image of this Document \(PDF\)](#)
- 2003 WL 24027330 (Appellate Brief) Brief for Defendant-Cross Appellant Thomson Consumer Electronics Regarding The '357 Patent and Licensing (Jan. 24, 2003)[Original Image of this Document with Appendix \(PDF\)](#)
- 2002 WL 32817208 (Appellate Brief) Corrected Brief for Plaintiff-Appellant Superguide Corporation

(Nov. 20, 2002)Original Image of this Document with Appendix (PDF)

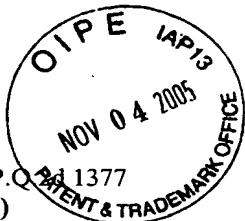
• 2002 WL 32817209 (Appellate Brief) Brief for the Third Party Defendant-Appellant Geimstar Development Corporation (Nov. 12, 2002)Original Image of this Document with Appendix (PDF)

• 02-1594 (Docket)
(Sep. 10, 2002)

• 02-1562 (Docket)
(Aug. 26, 2002)

• 02-1561 (Docket)
(Aug. 26, 2002)

END OF DOCUMENT

**H****Briefs and Other Related Documents**

United States Court of Appeals,
 Federal Circuit.
 Gary E. RHINE, Plaintiff-Appellant,
 v.
 CASIO, INCORPORATED and Casio Computer Co.,
 Ltd., Defendants-Appellees.
No. 98-1432.

July 6, 1999.

Patentee brought action alleging infringement of patent directed to wrist watch containing a flashlight having a time delay circuit. The United States District Court for the Northern District of Ohio, James G. Carr, J., granted summary judgment of noninfringement, and patentee appealed. The Court of Appeals, Mayer, Chief Judge, held that patent did not require that flashlight be distinct from light source that illuminated watch face.

Reversed and remanded.

West Headnotes**[1] Federal Courts** **776****170Bk776 Most Cited Cases**

Court of Appeals reviews a district court's decision to grant summary judgment de novo.

[2] Patents **323.2(1)****291k323.2(1) Most Cited Cases**

Where the parties do not dispute any relevant facts regarding the accused product, but disagree over possible patent claim interpretations, the question of literal infringement collapses into one of claim construction and is amenable to summary judgment.

[3] Patents **324.5****291k324.5 Most Cited Cases**

De novo standard applies to review of patent claim construction by Court of Appeals.

[4] Patents **157(2)****291k157(2) Most Cited Cases**

If the only claim construction that is consistent with the language of the patent claim and the written

description renders the claim invalid, then the axiom that claims should be so construed, if possible, as to sustain their validity does not apply, and the claim is simply invalid.

[5] Patents **176****291k176 Most Cited Cases**

Patent claiming wrist watch that contained flashlight on a time delay circuit did not require that flashlight be distinct from light source that illuminated watch face, in view of claim's limitation reciting a flashlight comprising "at least one light source," and flashlight limitation could thus be met by watch whose only light source illuminated both watch face and significant area beyond face.

[6] Patents **101(2)****291k101(2) Most Cited Cases**

Use of the phrase "at least one" in a patent means that there could be only one or more than one.

[7] Patents **165(4)****291k165(4) Most Cited Cases**

Particular embodiments appearing in a specification will not be read into the patent claims when the claim language is broader than such embodiments.

[8] Patents **118****291k118 Most Cited Cases**

Alleged patent infringer could not avoid a full-blown validity analysis by raising the specter of invalidity during the claim construction phase.

Patents **328(2)****291k328(2) Most Cited Cases**

4,910,562, 4,910,652. Cited.

*1343 Mark C. Schaffer, Emch, Schaffer, Schaub & Porcello Co., L.P.A., Toledo, Ohio, argued, for plaintiff-appellant. With him on the brief was James F. Porcello, Jr.

Barry D. Rein, Pennie & Edmonds, LLP, New York, New York, argued, for defendants-appellees. With him on the brief was Kenneth L. Stein.

Before MAYER, Chief Judge, SKELTON, Senior Circuit Judge, and CLEVINGER, Circuit Judge.

MAYER, Chief Judge.

Gary E. Rhine appeals the judgment of the United

States District Court for the Northern District of Ohio, Case No. 96CV7524, which granted Casio, Inc. and Casio Computer Co., Ltd. (collectively "Casio") summary judgment of noninfringement. Because the court improperly construed the claim, we reverse the judgment and remand the case.

***1344 Background**

Rhine owns U.S. Patent No. 4,910,652, which is directed to a wrist watch containing a flashlight having a time delay circuit. The time delay circuit turns the flashlight off after a set period of time. The only asserted claim, claim 1, recites: "A time keeping and displaying wrist mountable watch having a flashlight mounted in the case thereof, said flashlight comprising a power supply for supplying electrical power to said flashlight, said power supply electrically connected to at least one light source, and time delay means for automatically extinguishing said light source after a time delay following the energization of said light source." Because Casio sells and/or manufactures a wrist watch whose face illuminates with sufficient brightness to light up an area beyond the watch face itself, Rhine sued it for infringement of claim 1.

Following an initial settlement conference, the court ordered Rhine to file a motion to construe the claim, purporting to follow the procedure suggested by Markman v. Westview Instruments, Inc., 517 U.S. 370, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996). In the statement of claim interpretation submitted to the court, Rhine argued that claim 1 covers a wrist watch having (1) a light source capable of illuminating more than the watch face, and (2) a time-delayed extinguishment of the light source. Rhine also explained that Casio infringes the claim so construed. In response, Casio argued that the claim should be construed to cover only a wrist watch having two separate and distinct light sources--one that illuminates the watch face and one that illuminates an area beyond the face. Casio also moved for summary judgment of invalidity, arguing that if claim 1 covers a watch having a single light source, then it is invalid as obvious because the prior art discloses (1) a watch whose face illuminator is bright enough to illuminate more than the watch face, and (2) a time delay circuit for face illuminators.

"Because of th[e] limiting prior art," the court construed claim 1 "as covering a flashlight that is distinct from the light source that illuminates the face of the watch, in combination with a time delay device that automatically extinguishes the flashlight." This

limiting prior art includes a Japanese reference, which discloses "a wristwatch having an illumination lamp for lighting a time display unit and for providing illumination outside of the casing." In addition, the Patent and Trademark Office noted during prosecution that "both mounting search lights and flashlights on a user's wrist and enabling users to check the time by means of watch dial illumination were known in the prior art, although not in combination." The court reasoned that, because the Japanese reference discloses a single illumination source capable of illuminating both the watch face and an area surrounding the watch face, the flashlight limitation of claim 1 could not be construed to cover this type of single light source.

The court denied Casio's motion for summary judgment of invalidity, however, because there are genuine issues of material fact about whether the claim, as construed, is obvious over the prior art. Casio then filed a motion for summary judgment of noninfringement, arguing that its light source was not distinct from the one illuminating the watch face. Based on its claim construction and the undisputed evidence about the accused product's design and operation, the court granted Casio summary judgment of noninfringement. This appeal followed.

Discussion

[1][2][3] We review a district court's decision to grant summary judgment *de novo*. See *1345Gasser Chair Co. v. Infanti Chair Mfg. Corp., 60 F.3d 770, 773, 34 U.S.P.Q.2d 1822, 1824 (Fed.Cir.1995). "Where the parties do not dispute any relevant facts regarding the accused product, ... but disagree over possible claim interpretations, the question of literal infringement collapses into [one of] claim construction and is amenable to summary judgment." General Mills, Inc. v. Hunt-Wesson, Inc., 103 F.3d 978, 983, 41 U.S.P.Q.2d 1440, 1444 (Fed.Cir.1997); see also Athletic Alternatives, Inc. v. Prince Mfg., Inc., 73 F.3d 1573, 1578, 37 U.S.P.Q.2d 1365, 1370 (Fed.Cir.1996). The *de novo* standard applies to our review of claim construction. See Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1455-56, 46 U.S.P.Q.2d 1169, 1173-74 (Fed.Cir.1998) (en banc).

In construing claim 1, the district court ostensibly applied the familiar axiom that "[c]laims should be so construed, if possible, as to sustain their validity." Carman Indus., Inc. v. Wahl, 724 F.2d 932, 937 n. 5, 220 U.S.P.Q. 481, 485 n.5 (Fed.Cir.1983); see also ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 932 (Fed.Cir.1984). This axiom traces its origins to two Supreme Court

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 (Cite as: 183 F.3d 1342)

cases, *Turrill v. Michigan Southern & Northern Indiana Railroad*, 68 U.S.(1 Wall.) 491, 17 L.Ed. 668 (1863), and *Klein v. Russell*, 86 U.S.(19 Wall.) 433, 22 L.Ed. 116 (1873). *Turrill* explains that patents "are to receive a liberal construction, and under the fair application of the rule, *ut res magis valeat quam pereat*, are, if practicable, to be so interpreted as to uphold and not to destroy the right of the inventor." 68 U.S. at 510 (emphasis added). *Klein* further refines this rule, explaining that courts "should proceed in a liberal spirit, so as to sustain the patent and the construction claimed by the patentee himself, if this can be done consistently with the language which he has employed." 86 U.S. at 466 (emphasis added). The Court has consistently limited the axiom to cases where the construction is "practicable" and does not conflict with the explicit language of the claim.

[4] We, too, have consistently employed the caveat, "if possible," to our instruction that claims should be construed to sustain their validity. See, e.g., *Whittaker Corp. v. UNR Indus., Inc.*, 911 F.2d 709, 712, 15 U.S.P.Q.2d 1742, 1744 (Fed.Cir.1990) ("[C]laims are generally construed so as to sustain their validity, if possible."). We have also admonished against judicial rewriting of claims to preserve validity. See *Becton Dickinson & Co. v. C.R. Bard, Inc.*, 922 F.2d 792, 799 & n. 6, 17 U.S.P.Q.2d 1097, 1102 & n.6 (Fed.Cir.1990). Therefore, if the only claim construction that is consistent with the claim's language and the written description renders the claim invalid, then the axiom does not apply and the claim is simply invalid.

[5][6] In the case before us, the court misapplied the axiom and adopted a construction of "flashlight" that is at odds with the clear language of the claim and the written description. In holding that the recited "flashlight ... is distinct from the light source that illuminates the face of the watch," the court construed the claim to require at least two light sources--one that illuminates an area beyond the watch face and one that illuminates only the watch face (a face illuminator). However, claim 1 recites a flashlight comprising "at least one light source." (Emphasis added). Use of the phrase "at least one" means that there could be only one or more than one. See *Kistler Instrumente AG. v. United States*, 628 F.2d 1303, 1318, 211 U.S.P.Q. 920 (Ct.Cl.1980) ("Anyone with even the most rudimentary understanding of the English language understands 'at least one piezo-electric crystal means lodged within said component means,' to mean one or more crystals."). Therefore, the court's construction is contrary to the plain language of the claim.

*1346 To give meaning to the phrase "at least one light source," we must construe claim 1 to cover a device that has only one light source or a device that has more than one light source, assuming that the "device" is a "flashlight," as that term is used in the claim. According to the written description, the flashlight 8 is a light that is bright enough "to illuminate a small room or to otherwise serve satisfactorily as a flashlight." Col. 2, ll. 46-53. The face illuminator 9, in contrast, is a light that "enable[s] reading the time without turning on [the flashlight] 8 if desired." Col. 2, ll. 58-62. According to the written description, the flashlight 8 and the face illuminator 9 are different elements. However, the written description further explains that light from the flashlight 8 can be used to illuminate the watch face 4 in the absence of a distinct face illuminator. See col. 2, ll. 49-54 ("[T]he brightness of lamps 8 and the disposition of lamps 8 about case 3 should be arranged to illuminate timepiece face 4 so that the watch hands can be seen in the absence of otherwise provided light and so that the time indicative numbers and dots are also then visible."). Therefore, properly construed, the flashlight limitation is met by a wrist watch whose only light source illuminates both the watch face and a significant area beyond the watch face. This definition is consistent with the term's ordinary meaning. See American Heritage Dictionary 511 (2d College ed.1982) (defining "flashlight" as a "small, portable lamp usually powered by batteries").

[7] Casio argues that the claim cannot cover a watch without a separate face illuminator because the preferred embodiment includes one. However, "particular embodiments appearing in a specification will not be read into the claims when the claim language is broader than such embodiments." *Electro Med. Sys. S.A. v. Cooper Life Sciences*, 34 F.3d 1048, 1054, 32 U.S.P.Q.2d 1017, 1021 (Fed.Cir.1994). Because claim 1 does not recite a face illuminator, it is broader than the embodiment referenced by Casio. Moreover, because the written description does not require that the watch include a face illuminator, this "limitation should not be read from the specification into the claim[]." *Specialty Composites v. Cabot Corp.*, 845 F.2d 981, 987, 6 U.S.P.Q.2d 1601, 1605 (Fed.Cir.1988).

[8] Casio also argues that, under our construction, claim 1 is invalid because the recited combination is obvious. This argument is premature. Casio cannot avoid a full-blown validity analysis by raising the specter of invalidity during the claim construction phase. Although the court appeared to believe that several pieces of prior art, when viewed in

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combination, disclose all the limitations of claim 1, it did not conduct a validity analysis. *See Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 86 S.Ct. 684, 15 L.Ed.2d 545 (1966). Specifically, it did not identify any motivation to combine the references, *see In re Fine*, 837 F.2d 1071, 1074, 5 U.S.P.Q.2d 1596, 1598-99 (Fed.Cir.1988), or consider objective evidence of nonobviousness, *see Custom Accessories, Inc. v. Jeffrey-Allan Indus., Inc.*, 807 F.2d 955, 960, 1 U.S.P.Q.2d 1196, 1199 (Fed.Cir.1986). Moreover, Rhine alleges that he was denied the opportunity to conduct discovery on the secondary considerations. Therefore, we remand the case so that discovery can proceed, if necessary, and the court may fully evaluate the strength of the invalidity case.

Conclusion

Accordingly, the judgment of United States District Court for the Northern District of Ohio is reversed and the case is remanded for further proceedings consistent with this opinion.

REVERSED AND REMANDED

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Briefs and Other Related Documents ([Back to top](#))

- 1998 WL 34079933 (Appellate Brief) Reply Brief for Plaintiff-Appellant Gary E. Rhine (Nov. 02, 1998)[Original Image of this Document \(PDF\)](#)
- 1998 WL 34093783 (Appellate Brief) Corrected Brief for Cross-Appellants, Casio, Inc. and Casio Computer Co., Ltd. (Oct. 05, 1998)[Original Image of this Document \(PDF\)](#)
- 1998 WL 34093784 (Appellate Brief) Corrected Brief for Plaintiff-Appellant Gary E. Rhine (Aug. 21, 1998)[Original Image of this Document \(PDF\)](#)
- 98-1432 (Docket)
(Jun. 18, 1998)

END OF DOCUMENT

H**Briefs and Other Related Documents**

United States Court of Appeals,
Federal Circuit.
COOPER CAMERON CORPORATION,
Plaintiff-Appellant,
v.
KVAERNER OILFIELD PRODUCTS, INC.,
Defendant-Cross-Appellant.
Nos. 01-1383, 01-1408.

May 14, 2002.
Rehearing and Rehearing En Banc Denied July 11,
2002.

In patent infringement suit, the United States District Court for the Southern District of Texas, Judge Nancy F. Atlas, J., granted defendant's motion for summary judgment of noninfringement of patent directed to subsea wellheads having a horizontal spool tree arrangement that protects the integrity of the well during "workover" activities for repair and maintenance and its motion for summary judgment that the asserted claims another patent were invalid for inadequate written description, and assignee of patents appealed. The Court of Appeals, Lourie, Circuit Judge, held that: (1) assignee was foreclosed by the all-limitations rule from asserting infringement under the doctrine of equivalents; (2) patent was not invalid for failure to meet the written description requirement; and (3) fact issue existed as to whether certain reports were "printed publications" under statute governing conditions of patentability.

Affirmed in-part and reversed in-part.

West Headnotes**[1] Patents 314(5)**
291k314(5) Most Cited Cases

A determination of infringement, whether literal or under the doctrine of equivalents, is a question of fact.

[2] Patents 168(2.1)
291k168(2.1) Most Cited Cases**[2] Patents 237**
291k237 Most Cited Cases

Patent infringement under the doctrine of equivalents may be limited by doctrines of prosecution history estoppel and the all-elements or, more preferably, the all-limitations rule.

[3] Patents 314(5)
291k314(5) Most Cited Cases

Whether patent claims are properly supported by the written description is a question of fact.

[4] Patents 314(5)
291k314(5) Most Cited Cases

Whether an asserted anticipatory document qualifies as a "printed publication" for purposes of statute governing conditions of patentability is a legal conclusion based on underlying factual determinations. 35 U.S.C.A. § 102.

[5] Patents 237
291k237 Most Cited Cases

Assignee of patent directed to subsea wellheads having a horizontal spool tree arrangement that protects the integrity of the well during "workover" activities for repair and maintenance was foreclosed by the all-limitations rule from asserting infringement under the doctrine of equivalents; workover port in accused device entered the wellhead assembly "above" the two plugs, which could not be equivalent to a connection "between the two plugs."

[6] Patents 99
291k99 Most Cited Cases

Patent directed to subsea wellheads having a horizontal spool tree arrangement that protects the integrity of the well during "workover" activities for repair and maintenance was not invalid for failure to meet the written description requirement; drawing disclosed a workover port above the tubing hanger, and fact that the same drawing also showed it between the plugs did not vitiate its disclosure above the tubing hanger. 35 U.S.C.A. § 112.

[7] Federal Civil Procedure 2508
170Ak2508 Most Cited Cases

Genuine issue of material fact existed as to whether certain reports were sufficiently available to the public interested in the art at least before the priority date of the patents, if not also before the critical date of those patents, precluding summary judgment in favor of patentee on competitor's claim that reports were

"printed publications" under statute governing conditions of patentability. 35 U.S.C.A. § 102.

Patents 328(2)

291k328(2) Most Cited Cases
5,544,707. Not Infringed.

Patents 328(2)

291k328(2) Most Cited Cases

*1318 John M. Delehanty, Mintz Levin Cohn Ferris Glovsky & Popeo, P.C., of New York, NY, argued for plaintiff-appellant. Of counsel on the brief were William D. Belanger, and Geri L. Haight, Mintz Levin the spool tree from between the two plugs.” ¹⁰¹ patent, col. 9, l. 34--col. 10, ll. 4-5 (emphasis added). Cooper amended claim 10 during prosecution by incorporating a number of limitations from other claims. *Cooper I* at 5.

Richard L. Stanley, Howrey Simon Arnold & White, LLP, of Houston, TX, argued for defendant-cross appellant. With him on the brief were John F. Lynch, Stephen H. Cagle, John R. Keville, and Ira D. Einkelstein.

Before MAYER, Chief Judge, LOURIE and
SCHALL, Circuit Judges.

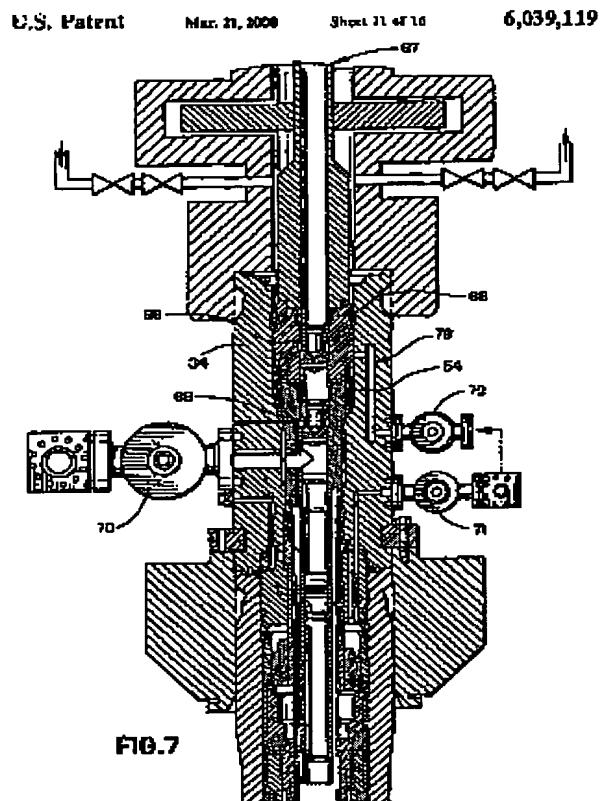
LOURIE, Circuit Judge.

Cooper Cameron Corporation appeals from the decision of the United States District Court for the Southern District of Texas granting Kvaerner Oilfield Products, Inc.'s motion for summary judgment of noninfringement of claim 10 of Cooper's U.S. Patent 5,544,707 and its motion for summary judgment that the asserted claims of Cooper's U.S. Patent 6,039,119 are invalid for inadequate written description under 35 U.S.C. § 112, ¶ 1. *Cooper Cameron Corp. v. Kvaerner Oilfield Prods., Inc.*, No. H-97-0155, slip op. (S.D.Tex. Apr. 16, 2001) ("Cooper I"). Kvaerner cross-appeals from the court's grant of Cooper's motion for summary judgment holding that certain documents did not qualify as "printed publications" under 35 U.S.C. § 102. Because Kvaerner's accused wellhead device does not infringe the '707 patent under the doctrine of equivalents as a matter of law, we affirm on that issue. We conclude, however, that the court erred in its determination that the '119 patent claims are invalid for lack of written description and we therefore reverse the court's grant of summary judgment on that issue. We also reverse the court's grant of summary judgment that the asserted references are not "printed publications" within the meaning of 35 U.S.C. § 102.

BACKGROUND

Cooper is the assignee of the '707 and '119 patents, which are directed to subsea wellheads having a horizontal spool tree *1319 arrangement that protects the integrity of the well during "workover" activities for repair and maintenance. *Cooper I* at 2. The '707 patent issued first, on August 13, 1996. Claim 10 of that patent recites "[a] wellhead comprising ... a workover port extending laterally through the wall of the spool tree from *between the two plugs*." '707 patent, col. 9, l. 34--col. 10, ll. 4-5 (emphasis added). Cooper amended claim 10 during prosecution by incorporating a number of limitations from other claims. *Cooper I* at 5.

Cooper also filed a continuation application on the wellhead invention, which issued as the '119 patent on March 21, 2000. *Id.* Figure 7 of that patent is reproduced below.



It shows the position of the plugs 66 and 69, as well as the workover port 73 "which extends through the wall of the spool tree to the void between the plugs 69 and 66." '119 patent, col. 7, ll. 2-4. Claim 1 is representative of the different claim scope of that patent and is directed to a wellhead assembly comprising, *inter alia*, "a workover port extending

through said wall of said spool tree for selective fluid circulation with that portion of said common passageway *below the BOP bore and above said tubing hanger*" *Id.* at col. 8, ll. 19-22 (emphasis added). The "tubing hanger" is denoted as item 54. *Id.* at col. 6, l. 30. Significantly, the workover port is no longer required to be "between the two plugs," as it is in claim 10 of the '707 patent.

Kvaerner manufactures and sells a "Side Valve Tree" device that has a workover port placed above both "plugs," as that term is used in claim 10, but not between the two plugs. *Cooper I* at 4. Cooper sued Kvaerner for infringement of claim 10 of *1320 the '707 patent under the doctrine of equivalents. *Id.* After the '119 patent issued, Cooper amended its complaint to include an allegation of literal infringement of claims 1, 3, 6, 7, 14, 16, 24, 29, and 31 of that patent.

In its defense, Kvaerner asserted that written reports by Subsea Intervention Systems Ltd. ("SISL") anticipated the claims of both the '707 and '119 patents. Cooper moved for summary judgment that those references were not "printed publications" for purposes of 35 U.S.C. § 102. The court granted that motion, determining that the reports were not generally available or were not prior art. *Cooper Cameron Corp. v. Kvaerner Oilfield Prods., Inc.*, No. H-97-0155, slip op. at 20-23 (S.D.Tex. Feb. 19, 1999) (memorandum opinion and order) ("Cooper II").

Kvaerner also moved for summary judgment of noninfringement of the '707 patent, which the court granted. It determined that Cooper was foreclosed from asserting infringement by equivalence due to the amendments it made to claim 10 of the '707 patent during prosecution pursuant to this court's decision in *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 234 F.3d 558, 56 USPQ2d 1865 (Fed.Cir.2000) (en banc), cert. granted, 533 U.S. 915, 121 S.Ct. 2519, 150 L.Ed.2d 692 (2001). *Cooper I* at 6, 17. As an alternative basis for its holding, it concluded that the "all-elements" rule foreclosed infringement under the doctrine of equivalents because Kvaerner's accused device had a workover port connecting to the spool tree "above" the two plugs, which could not be "between" the two plugs as a matter of law. *Id.* at 18-19.

Kvaerner additionally moved for partial summary judgment that the asserted claims of the '119 patent are invalid for failure to meet the written description requirement of 35 U.S.C. § 112, ¶ 1. The district court granted this motion, concluding that the claims are not supported by the description in the parent

European patent application 92/305,014, filed on June 1, 1992, and thus could not claim the benefit of that filing date. *Cooper I* at 20. The court determined that the original disclosure only referred to the workover port as being located between the two plugs and thus did not support claims having the workover port in a location other than between the two plugs. *Id.* at 23. As Cooper conceded that the challenged claims in the '119 patent would be invalid if they did not relate back to the June 1, 1992 filing date, the court concluded that claims 1, 3, 6, 7, 14, 16, 24, 29, and 31 of that patent were invalid. *Id.* at 24. Cooper timely appealed to this court; we have jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).

DISCUSSION

Summary judgment is appropriate "if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law." Fed.R.Civ.P. 56(c). "The evidence of the nonmovant is to be believed, and all justifiable inferences are to be drawn in his favor." *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 255, 106 S.Ct. 2505, 91 L.Ed.2d 202 (1986). We review a district court's grant of a motion for summary judgment *de novo*. *Ethicon Endo-Surgery, Inc. v. United States Surgical Corp.*, 149 F.3d 1309, 1315, 47 USPQ2d 1272, 1275 (Fed.Cir.1998).

[1][2][3][4] A determination of infringement, whether literal or under the doctrine of equivalents, is a question of fact. *Bai v. L & L Wings, Inc.*, 160 F.3d 1350, 1353, 48 USPQ2d 1674, 1676 (Fed.Cir.1998). Infringement under the doctrine of equivalents *1321 may be limited by two legal doctrines relevant to this appeal: prosecution history estoppel and the "all-elements or, more preferably, the all-limitations rule." *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 39 n. 8, 117 S.Ct. 1040, 137 L.Ed.2d 146 (1997). Whether claims are properly supported by the written description is a question of fact. *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563, 19 USPQ2d 1111, 1116 (Fed.Cir.1991). Whether an asserted anticipatory document qualifies as a "printed publication" under § 102 is a legal conclusion based on underlying factual determinations. *N. Telecom, Inc. v. Datapoint Corp.*, 908 F.2d 931, 936, 15 USPQ2d 1321, 1325 (Fed.Cir.1990).

On appeal, Cooper argues that *Festo* does not preclude application of the doctrine of equivalents to the '707 patent because it did not amend the "workover port" limitation of claim 10 during prosecution.

Similarly, Cooper asserts that the court misapplied the all-limitations rule, arguing that the "workover port" limitation is not vitiated under a proper analysis of the rule because Kvaerner's accused device has a workover port. With respect to the '119 patent, Cooper argues that the original disclosure and the drawings describe a workover port that terminates below the BOP bore and above the tubing hanger. In particular, it asserts that the location of the plugs is irrelevant during the workover operation, and thus the "between the two plugs" limitation is not an "essential element" of the invention that must be included in the claims pursuant to this court's decision in *Gentry Gallery, Inc. v. Berkline Corp.*, 134 F.3d 1473, 45 USPQ2d 1498 (Fed.Cir.1998).

Kvaerner responds that *Festo* does apply because Cooper amended what became claim 10 by adding limitations to that claim for reasons relating to patentability. Kvaerner also argues that the court properly applied the all-limitations rule to foreclose infringement by equivalents to the "between the two plugs" limitation because "between" expressly excludes "above." Kvaerner also argues that the court properly invalidated the relevant claims of the '119 patent because the patent never described the workover port in any location other than between the two plugs.

In the event that we do not affirm the district court on both the infringement and validity issues, Kvaerner cross-appeals from the district court's decision that the SISL documents do not qualify as prior art. Kvaerner argues that it presented genuine issues of material fact that the SISL reports were available to members of the interested public during the relevant time period, and that the business context of the reports indicates that their contents were meant to be disseminated. Cooper responds that distribution of the reports was effectively limited to SISL joint venture members.

A. Infringement

[5] We agree with Kvaerner that the district court did not err in granting summary judgment of noninfringement of claim 10 of the '707 patent under the doctrine of equivalents. The Supreme Court in *Warner-Jenkinson* ratified this court's practice of considering that

[e]ach element contained in a claim is deemed material to defining the scope of the patented invention, and thus the doctrine of equivalents must be applied to individual elements of the claim, not to the invention as a whole. It is important to ensure that the application of the doctrine, even as to an

individual element, is not allowed such broad play as to effectively eliminate that element in its entirety.

520 U.S. at 29, 117 S.Ct. 1040. More recently, in *Moore U.S.A., Inc. v. Standard Register Co.*, 229 F.3d 1091, 1094, 56 USPQ2d 1225, 1235-36 (Fed.Cir.2000), we *1322 held that a claim to a mailing form requiring that strips of adhesive extend to "the majority" of the lengths of longitudinal margin portions could not be met equivalently by an accused device with strips of adhesive that extended to only 47.8% of the length of the margin because a "minority" could not be a "majority" as a matter of law. Similarly, the workover port in Kvaerner's accused device enters the wellhead assembly "above" the two plugs, which cannot be equivalent to a connection "between the two plugs." Were we to ignore Cooper's decision to claim in the '707 patent a workover port that connects to the assembly only "between" the plugs, we would vitiate that limitation and thereby run afoul of the all-limitations rule. Moreover, we are not persuaded by Cooper's arguments that the court should have defined the relevant limitation for purposes of the all-limitations rule as the "workover port," which is in fact present in Kvaerner's device, although admittedly not at the claimed location between the two plugs. Cooper cannot escape application of the all-limitations rule by recharacterizing its claim so as to ignore a material limitation. We therefore conclude that the district court properly granted summary judgment of noninfringement. We need not review the district court's alternative basis for that judgment, *viz.*, prosecution history estoppel under *Festo*.

B. Invalidity under 35 U.S.C. § 112, ¶ 1

[6] We agree with Cooper, however, that the district court erred in granting summary judgment that the asserted claims of the '119 patent are invalid for failure to meet the written description requirement. In *Vas-Cath*, we held that "under proper circumstances, drawings alone may provide a 'written description' of an invention as required by § 112." 935 F.2d at 1565, 19 USPQ2d at 1118. Drawings constitute an adequate description if they describe what is claimed and convey to those of skill in the art that the patentee actually invented what is claimed. Id. at 1566, 935 F.2d at 1555, 19 USPQ2d at 1119. In *Vas-Cath*, we reversed the district court's grant of summary judgment of invalidity of claims to a double lumen catheter having a combination of features. In particular, we disagreed with the court's statement that one could not tell from the drawings what combination of the disclosed features constituted "the invention" because "[t]hat combination invention is

what the [patent's] drawings show." *Id.* at 1565, 935 F.2d 1555, 19 USPQ2d at 1118. The court's concern with "what the invention is" was misplaced, we explained, because there is no "legally recognizable or protected 'essential' element, 'gist' or 'heart' of the invention in a combination patent." *Id.* (quoting *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 345, 81 S.Ct. 599, 5 L.Ed.2d 592 (1961)).

Similarly, the '119 patent', which the parties agree shares an identical written description with the '707 patent' and the original European patent application from which priority is claimed, depicts a wellhead assembly having a workover port 73 entering the assembly at the location claimed, *viz.*, above the tubing hanger 54 and below the BOP bore at the top of the figure. *See, e.g.*, '119 patent', Figure 7. As in *Vas-Cath*, the invention shown in the drawing is the invention claimed. Although the specification also describes an arrangement that may be claimed in another way (*i.e.*, "between the plugs"), and explains why the invention functions well when arranged accordingly, the specification is not limited to that particular description. An inventor is entitled to claim his invention in more than one way. Cooper's expert explained that the statement that the "workover port extends laterally through the wall of the spool tree from between the two plugs," '119 patent', col. 4, ll. 11-13, "clearly teaches that the important *1323 feature is that the workover port extends laterally through the wall above the lower plug which is in the top of the tubing hanger." Examination of Figure 7 shows that it clearly provides a written description of the arrangement as it is depicted and claimed in the '119 patent'. No reasonable fact-finder could conclude otherwise.

We are not persuaded by Kvaerner's arguments, relying on *Gentry*, that it is essential to the invention for the workover port to enter the assembly "between the two plugs" and that claims reciting a location other than "between the two plugs" are therefore invalid for inadequate description. In *Gentry*, the original disclosure identified the console of a sectional sofa as the only possible location for the controls. 134 F.3d at 1479, 45 USPQ2d at 1503. We held that the asserted claims were invalid because the location of the recliner controls in the claims was not limited to the console. *Id.* at 1479-80, 45 USPQ2d at 1503-04. In reaching that conclusion, we stated: "[I]t is clear that [the inventor] considered the location of the recliner controls on the console to be an essential element of his invention. Accordingly, his original disclosure serves to limit the permissible breadth of his after-drafted claims." *Id.* In so stating, we did not

announce a new "essential element" test mandating an inquiry into what an inventor considers to be essential to his invention and requiring that the claims incorporate those elements. Use of particular language explaining a decision does not necessarily create a new legal test. Rather, in *Gentry*, we applied and merely expounded upon the unremarkable proposition that a broad claim is invalid when the entirety of the specification clearly indicates that the invention is of a much narrower scope. *Id.* ("[C]laims may be no broader than the supporting disclosure."). There was no description or support whatever in the *Gentry* patent of the controls being other than on the console. In contrast, in this case, Cooper's claims to the location of the workover port in the '119 patent' are supported by the figures showing that the workover port is in fact above the tubing hanger and below the BOP bore. *See, e.g.*, '119 patent', Figure 7.

We are also not persuaded by Kvaerner's arguments that the claims are invalid for inadequate description because the specification does not indicate that the workover port may be claimed by reference to the position of the tubing hanger and BOP bore. The drawing does disclose a workover port above the tubing hanger. The fact that the same drawing also shows it between the plugs does not vitiate its disclosure above the tubing hanger. Both descriptions are supported by the same drawing. Because no reasonable fact-finder could find that Kvaerner demonstrated the invalidity of the '119' claims by clear and convincing evidence, we reverse the court's grant of summary judgment and conclude that the claims are not invalid for inadequate description as a matter of law.

C. Printed Publications

[7] We agree with Kvaerner that the court erred in granting summary judgment that the four SISL reports are not "printed publications" under § 102 because Kvaerner raised a genuine issue of material fact that the reports were sufficiently available to the public interested in the art at least before the priority date of the '707' and '119' patents (June 1, 1992), if not also before the critical date of those patents (June 1, 1991). The SISL joint venture released the Task 1000 and 2000 reports to its three members and six participants between late 1990 and the end of June 1992. Kvaerner submitted employee affidavits stating that those papers were not considered confidential and were distributed to interested parties, including outside contractors. SISL also submitted a second interim report to the Commission of European *1324 Communities in July 1991. The court thus improperly

resolved questions of fact in Cooper's favor when it determined that the second report had not been distributed to SISL participants. Moreover, we disagree with the court's conclusion that the "confidential" label on that report removed it as an available prior art reference. As Kvaerner points out, the report contained only a single confidentiality notice relating to financial information on the fourth page of its 130 pages. That notice does not render the entire document inaccessible in light of evidence that the reports were available to participants who were allowed to share confidential data with others. These documents are therefore unlike those held not to qualify as prior art in *Northern Telecom*, as the documents in that case were not authorized for public release and were maintained under a policy of restricted access. *N. Telecom*, 908 F.2d at 936, 15 USPQ2d at 1325.

With respect to the final report bearing a date of March 1992, the district court also improperly resolved questions of fact in Cooper's favor in its determination that the report was not available until after June 29, 1992. The presence of the earlier date on the report indicates that it may have been available as of that date and would thus qualify as prior art under § 102(a).

Finally, on remand the district court should take into consideration that reports need only be accessible to the interested public, *Mass. Inst. of Tech. v. AB Fortia*, 774 F.2d 1104, 1109, 227 USPQ 428, 432 (Fed.Cir.1985), which in this case may be the very entities who had access to the documents: SISL joint venture members, participants, and their contractors and licensees. This does not appear to be a case in which documents shared with joint venture members are maintained in confidence. Here, those with access to the documents were asserted to be a significant portion of the interested public. Moreover, Kvaerner presented evidence that any other interested persons exercising reasonable diligence could have sought information concerning horizontal tree subsea well designs from SISL, much if not all of which information was available without restriction. However, those are matters the district court should resolve on remand.

Because we conclude that Cooper is foreclosed by the all-limitations rule from asserting infringement under the doctrine of equivalents, we affirm the court's grant of summary judgment of noninfringement of claim 10 of the '707 patent. However, the court erred in granting summary judgment on Kvaerner's motion that the asserted '119 claims are invalid for inadequate

description and in granting Cooper's motion that the SISL reports do not qualify as prior art with respect to both the '707 and '119 patents. Accordingly, we

AFFIRM-IN-PART and REVERSE-IN-PART.

291 F.3d 1317, 62 U.S.P.Q.2d 1846

Briefs and Other Related Documents ([Back to top](#))

- 2002 WL 32172057 (Appellate Brief) Opposition of Plaintiff-Appellant to Defendant-Cross Appellant's Petition for Rehearing and Rehearing En Banc on the Written Description Issue (Jun. 27, 2002)Original Image of this Document (PDF)
- 2001 WL 34148345 (Appellate Brief) Reply Brief of Defendant-Cross Appellant Kvaerner Oilfield Products, Inc. (Dec. 07, 2001)Original Image of this Document (PDF)
- 2001 WL 34630865 (Appellate Brief) Reply Brief of Defendant-Cross Appellant Kvaerner Oilfield Products, Inc. (Dec. 07, 2001)Original Image of this Document (PDF)
- 2001 WL 34148344 (Appellate Brief) Reply Brief for Plaintiff-Appellant Cooper Cameron Corporation (Nov. 20, 2001)Original Image of this Document (PDF)
- 2001 WL 34148347 (Appellate Brief) Defendant-Appellee Kvaerner Oilfield Products, Inc.'s Principal Brief on the Merits (Oct. 12, 2001)Original Image of this Document with Appendix (PDF)
- 2001 WL 34148346 (Appellate Brief) Brief for Plaintiff-Appellant Cooper Cameron Corporation (Aug. 03, 2001)Original Image of this Document with Appendix (PDF)
- 2001 WL 34630866 (Appellate Brief) Brief for Plaintiff-Appellant Cooper Cameron Corporation (Aug. 03, 2001)Original Image of this Document (PDF)
- 01-1408 (Docket)
(Jun. 20, 2001)
- 01-1383 (Docket)
(May. 29, 2001)

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Ex parte Schaefer

171 USPQ

ble injury, not supported by facts or circumstances tending to justify them, are not sufficient to warrant this drastic relief.

Accordingly, motion for preliminary injunction is denied.

Patent Office Board of Appeals

Ex parte SCHAEFER

Patent issued June 29, 1971

Opinion dated June 24, 1970

PATENTS

1. Claims — "Comprising," "consisting," etc. (§20.30)

"Including" and "comprising" in claim mean that recited elements are only a part of device defined in specification.

2. Claims — Broad or narrow — In general (§20.201)

Omission from claim of some elements of device defined in specification makes claim broad but not vague, indefinite, or misdescriptive.

Particular patents—Viewing System

3,589,796, Schaefer, Collimated Viewing System, claims 8, 9, 17 to 19, 21, and 22 of application allowed; claims 3 and 16 refused.

Appeal from Group 259.

Application for patent of Carl F. Schaefer, Serial No. 580,381, filed Sept. 19, 1966. From decision rejecting claims 3, 8, 9, 16 to 19, 21, and 22, applicant appeals (Appeal No. 979-04). Affirmed as to claims 3 and 16; reversed as to claims 8, 9, 17 to 19, 21, and 22.

SHENIER & O'CONNOR, New York, N. Y., for applicant.

Before KREEK, KEELY, and STRADER, Examiners in Chief.

KEELY, Examiner in Chief.

This is an appeal from the refusal of the examiner to allow claims 3, 8, 9, 16 through 19, 21, and 22, all the claims in the case.

References cited by the examiner:

Davis 2,633,051 March 31, 1953

Tacklind et al. 2,895,372 July 21, 1959

Papke 3,182,545 May 11, 1965

All of the claims stand rejected as failing to comply with the second paragraph of 35 U.S.C. 112. We have reviewed the present specification, drawing and claims in the light of the examiner's and appellant's comments and as a result of our review are in accord with the position of appellant on this ground of rejection.

Appellant has applied claim 16, element for element to his drawing and it is obvious that the terms used in the claims are definitive of the part of his structure covered by the claim.

[1] The claims contain two words "including" in line three and "comprising" in line five of the copy of the claim in the brief; which words mean to us that the recited elements are only a part of the device defined in the specification.

[2] Omission of some of the elements of the device makes the claim broad, but not vague, indefinite or misdescriptive.

The remaining claims in the case are likewise broad but not vague, indefinite or misdescriptive.

Accordingly, we will not sustain this ground of rejection.

All claims also stand rejected as unpatentable over Davis as a basic reference modified where necessary, in the light of the remaining references.

We have reviewed claims 3 and 16 in the light of the examiner's and appellant's comments and as a result of our review are in accord with the position of the examiner on these claims.

Claim 16 differs from Davis only in the use of a Mangin type reflector in place of the partially reflecting member 3 of Davis. The Mangin mirror, one form of which is shown at 13 (Fig. 2) of Tacklind et al., is a very well-known and old form of optical device for reducing spherical aberration.

In our opinion, the routineer in the art, in using the Davis device in a situation where spherical aberration becomes a problem would adopt the Mangin type partial reflector for solving his problem.

Accordingly, we will sustain the rejection of claims 3 and 16 under 35 U.S.C. 103.

The remaining claims, however, involve combinations of elements which, in our opinion, would not be made obvious to the routineer by the prior art developed by the examiner to support his position.

The rejection of claims 3 and 16 is affirmed, and the rejection of claims 8, 9, 17, 18, 19, 21, and 22 is reversed.

171 USPQ

Aloe Creme Labor

Patent Office Trademark Trial a Appeal Board

AOLE CREME LABORATORIES, INC.
LORING LABORATORIES, INC.

Decided Feb. 17, 1971

Trademark opposition No. 50,026 b
Creme Laboratories, Inc., against
Laboratories, Inc., application, Seri:
317,348, filed Jan. 23, 1969. Opp
sustained.

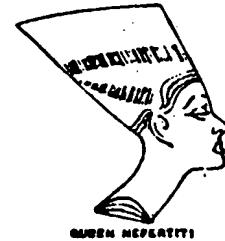
JAMES R. MCKNIGHT, Chicago, IL
Aloe Creme Laboratories, Inc.
JAMES R. GWAYNA, Minneapolis,
for Loring Laboratories, Inc.

LEACH, Member.

Loring Laboratories, Inc. has filed
application to register the following m:
bubble bath, bath oil, powdered and
bubbling milk bath in class 51, and fo
soap, hard milled soaps and aerated
soaps in class 52, asserting use of the
since August 10, 1967.



Registration has been opposed by
Creme Laboratories, Inc., which alle
grounds therefor that applicant's mark
sembles the mark reproduced below,
ously used by opposer for cosmetics, so
ointments, and registered by it for the
product, as to be likely to cause confu
mistake or to deceive.¹



Only opposer has filed testimony or

¹ Reg. No. 798,737, issued Nov. 16, 1965.